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Including THE FLYING SPORTSMAN

APRIL 1947 25¢

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Distant shopping points and distribution centers . . . widespread business appointments . . . remote playgrounds or hunting and fishing spots—all are within hours' reach instead of days with SILVAIRE'S range of more than 600 miles . . . its 112-mile-per-hour cruising speed.

Flashingly beautiful, the SILVAIRE is *weatherproofed*. Its gleaming, all-metal skin defies the elements . . . it's never off the flight line for costly recovering jobs . . . it has no wood to rot or wear out. For beauty that lasts for years . . .for extra strength and safety. . . for low operating and maintenance costs—fly the 85 horsepower SILVAIRE Deluxe, the ideal plane for business, farming, sports and pleasure. Ask your dealer for a free demonstration flight.

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MRS. T. C. McNEIL, JR.,
CHARLOTTE, N. C.

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"My husband and I flew all models of post-war airplanes before we purchased the sleek, ultra-modern, all-metal Silvaire. We have already made a number of long cross-country flights at exceptionally low cost. With a cruising speed averaging 100 mph. our Silvaire costs approximately one dollar per hour for gasoline and oil. Total operating cost is approximately 3¾ cents per mile, including all insurance and other miscellaneous expenses."

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SILVAIRE'S sturdy, especially designed landing gear will stand up to exceptional abuse — its tubular steel structure is further strengthened by stainless steel tie-rods that will withstand 14,000 pounds pull. Semi-cantilever knee action gear, with hydraulic shock absorbers make landings gentle and easy. Landing gear fairing give increased air speed and clean, attractive lines.

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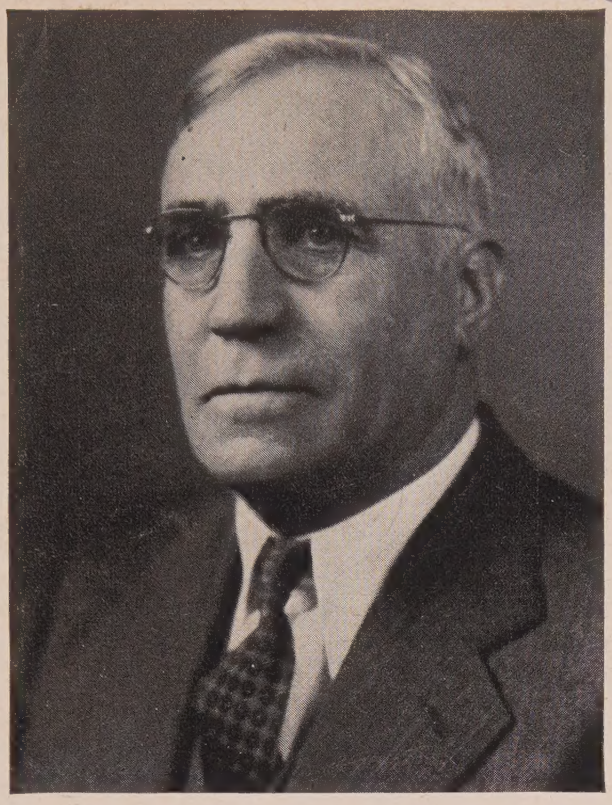

WILLIAM T. PIPER, *President*
Piper Aircraft Corporation

A Pledge to Those Who Fly or Want to Fly

Although the records reveal that Piper Cubs have led all other makes of personal planes in sales for more than a decade, and although recent surveys show that Piper Cubs lead all other planes in "brand preference" among people who plan to become plane owners in the near future, you may rest assured that the management and the 3,000 co-workers of Piper Aircraft Corporation are not complacent.

It is our pledge to continue building *good, safe planes that you can afford to buy and fly* . . . to make changes when changes are improvements . . . to give you the biggest possible value in flying pleasure and usefulness on a dollar-for-dollar basis.

Moreover, you can count on the 1500 Piper Cub Dealers to keep on furnishing you the most for your money in maintenance, flying instruction, rental and charter accommodations . . . and to continue doing all they can every day to better each phase of their service to those who fly or want to fly.

W. T. Piper

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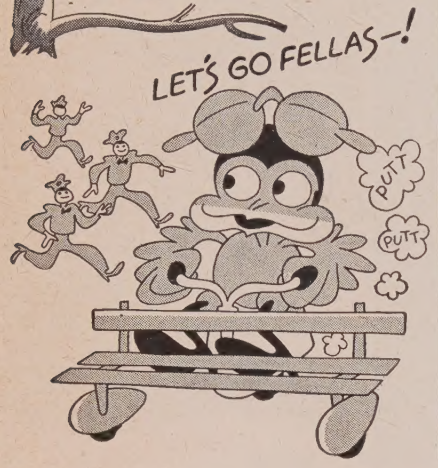
The Birdmen's Perch

By *Major Al Williams*, ALIAS, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.



Have you been in or out of Washington National lately?

If so, you may have seen what we fear will be responsible for our downfall . . . the cause of a life of crime, maybe.

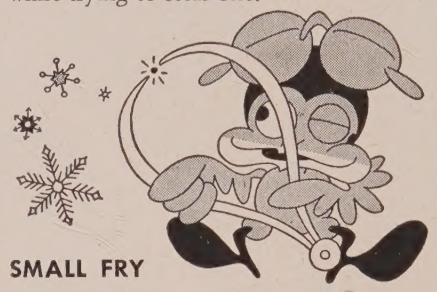
The Gulf gang at WA has its "field headquarters" in a trailer right down on the loading ramp, you see. When a big airliner comes in the Gulf lads may have to travel clean across to the opposite end of the apron to gas her up. And at WA that's a piece of traveling!

So to get back and forth, they use a rig that looks like a park bench on a three-wheeled motorcycle . . . going backwards. And that little puddle-scooter really winds up!

Well, we've watched those octane artists come piling out of the trailer, leap onto the bench, and go scooting merrily through the breeze to the far ends of the concrete (in less time than it takes to say Good Gulf Aviation Gasoline) so many times that we're envious. In fact we're deep-green-jealous!

We want one of those jitter buggies!

We want one so bad that we're afraid some dark night we may get pinched while trying to steal one.



SMALL FRY

Ever measure a snowflake?

They're tiny, see? But when they hit an airplane, they get even smaller. They break up into 30 to 500 fragments per flake, and produce enough static electricity to enthusiastically louse up your radio communications. Not to mention your eardrums!

But the nasty little snow particles are big, blubbering, oversized sissies compared to some of the particles that make trouble in a drop of crude oil!

For these little trouble-makers are no bigger than a molecule. In fact they are molecules! Now, some of the molecules in a drop of oil are tough enough to prevent metal-to-metal contact between a piston and cylinder! But there are others with no gumption at all. They'd turn into carbon or form sludge at the drop of a helmet.

The process of extracting these weakling molecules from crude oil is called "refining." And the end product is lubricating oil.

Gulf's exclusive *additional* refining step, which gets even more of these shiftless molecules out of already *refined oil*, is called the "Alchlor Process."

And the end product is a super-lubricant called Gulfpride Oil!

Which you should use.

LITTLE KNOWN FACTS

Here are 3 new Little Known Facts About Well-Known Planes, each of which has gotten its sender a fancy-shmancy commission as Perch Pilot (bottom rung). If you know a "Fact" as interesting as these and send it in—*with proof*—you too can join the rarified ranks of America's rarest pilots!

Perch Pilot (br) Edwin Earnshaw, Kansas City, proved that:

"An aircraft engine delivering 1500 hp consumes 5 times its own weight in air, every hour!"

Perch Pilot (br) Thomas Falatko, Washington, D.C., rates a commission because:

"B-36 crews travel the 85' tunnel between fore and aft pressurized compartments on a 4-wheeled scooter!"

And Perch Pilot (br) Charles Miller, Sacramento, will get promoted to Senior Perch Pilot before long (that takes 5 accepted "Facts," you know), because this is his 4th "Fact"!

"In entering a traffic pattern and landing, the right wing tip of a 35'-span putt-putt travels about 42.5 feet farther than the left wing tip!"

Got a "Fact"? Got proof? Got a post card?

Well?

SKYWAYS

Incorporating Air News

Cover: Aeronca Chum — *by Ren Wicks*

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There are two Skyways: English and Spanish

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AIR YOUR VIEWS

Recheck That Compass!

Gentlemen:

I was recently amazed in reading your excellent publication to find such an erroneous article as "Check That Compass," (January, 1947).

The author of this article has given a very good explanation of "ground swinging" a magnetic compass, but has entirely defeated his purpose in working up the compass card. The deviation of the compass has been correctly computed by use of the master compass. The compass card computations immediately following are, however, in error. In fact, the error of the compass has been doubled. The compass card should look exactly like the deviation table. For example, if the master compass reads 315° and the plane's compass 311°, you must fly 311° by the plane's compass in order to make good an actual heading of 315°.

ARTHUR DEXTER

Phoenix, Arizona

You have a true heading there, Mr. Dexter! It's easy to see you'll never get lost. Yes, the deviation table should be used for the compass card, and the compass card as we used it is wrong. Just goes to show what we've always said—use your compass, but use check-points, too.—ED.

•

Prop-Wash Pup

Dear Sir:

Be careful when you mention Prop-Wash in the flight office at Rubinkam Airport—that's the name of the cute new puppy mascot given to the airport by one of the pilots.

CYRILLA KNUDTSON

Chicago, Illinois

•

Flying Farmers' Tour

Dear Sir:

Recently I offered the suggestion to Mr. Herb Graham, secretary of National Flying Farmers, that their organization next summer sponsor a week or 10-day "Flying Farmer's Tour of the Mid-West" winding up at Stillwater for the national convention. If such a tour could be planned with entertainment at overnight stops, hitting the recreational spots, visiting plane factories, etc., I believe the inducement to attend would be great. With proper backing, I believe it could be turned into a very popular affair, beneficial to the Flying Farmers and the aviation industry alike. My point in writing you this is to spread the idea everywhere possible in the hopes it might catch.

MAX BURK

Manhattan, Kansas

Sounds to us like a good idea. We'll refer to the proper authority any one who expresses interest in the scheme.—ED.

Shot Not Slugs

Dear Sirs:

In the February issue of SKYWAYS you had a very interesting article on "Sky Hunting in Oregon." Although I thought the piece was tops, I wish to bring to your attention a slight error. On page 86 you state that Giles is armed with a 12-gauge *shotgun* loaded with BB shot, and in the same breath you say he "noses the *rifle* out of the window." It must be a shotgun, not a rifle. A rifle shoots a slug and has rifling in the barrel, whereas a shotgun is smooth bore and fires shot.

Keep up with more stories of the same type.

W. MILLER

Utica, New York

Right you are, sir. This was a shotgun.—ED.

•

Cub Frolics

Dear Sir:

As a student pilot, one always hears something new. I heard in hangar talk that no one knew of a case where a pilot bailed out of a *Cub* and came out alive. Is this so? Also, can you loop and barrel-roll a *Cub?*

When your issue comes out I head for the "Prop Wash" column first. I think it's OK.

DOUGLAS FREESE

Portage Des Sioux, Missouri

A brief survey through the SKYWAYS staff showed that several people right here know pilots who have bailed out of lightplanes, quite safely! So now you can add your bit to that hangar talk.

Loops are performed in Cubs, *but as the plane is not stressed for inverted flight, it is only common sense not to snap-roll it, or otherwise treat it like an acrobatic ship.*—ED.

•

For Greater Safety

Gentlemen:

I've been reading SKYWAYS for four years, and I think the best part of it is "Air Your Views" so I'm going to air mine too. Why, if the airlines are improving, are there so many crashes? Everyday we read of a plane crash and its death toll. Why not improve airline conditions instead of spending so much time on jet planes and V-bombs? Before speed, let's have safety or we won't have any aviation.

SIEGFRIED ULLRICH

Rensselaer, New York

Despite recent accidents, due for the most part to weather, the airlines' safety record is very high and one the airlines should be proud of. Right now they are going through a very important readjustment period which is certain to result in substantial improvement in operations and service. Authorities are confident that next winter's record will be considerably better. By that time, CAA will have their Instrument Landing System installed in nearly 100 major airports, with many months of pilot experience and thousands of actual landings, utilizing ILS, behind them. The airline pilots will have their training on the system by then. Besides that, several of the busiest airports will also have the radar Ground Controlled Approach system as an alternate or supplementary aid. This was used by Army and Navy with remarkable success, and is an example of high-pressure wartime research and development which will yet pay handsome dividends for peacetime aviation.—ED.

•

Biggest Pilot

Dear Sirs:

While reading "Prop Wash" in the February issue of SKYWAYS, I ran across a note on farmer William Roberts, who claims to be the biggest pilot in this country.

He weighs 275 pounds. I weigh 319 pounds. I have been flying since 1943, and a good old *duster*, Bill Faison, of West Memphis, Arkansas, taught me to fly.

Keep up the Aero Oddities. They are very interesting and educational.

WILL HARDY

SS Cape Breton

So far that's top weight, Mr. Hardy. Any other entries in the "Biggest Pilot" Derby?—ED.

•

Congressional Loss

Dear Editor:

You mention on page 6 of the February issue that Jennings Randolph was defeated in West Virginia's Second Congressional District. Aviation lost the services of its best friend. I register on the wrong side from Mr. Randolph, but I supported him to the hilt. Financially he should be better off leaving his Congressional seat, because plenty of airlines could use his capabilities at a substantial salary figure. All I do is wish him luck and hope he still remains the champion of aviation.—ED.

O. R. OATES

Winston-Salem, N. C.

We share your regret, Reader Oates, at losing a good friend from the legislative body, but we are confident that whatever Mr. Randolph does, he will continue to be a friend and champion of aviation.

•

Small Airports A-Building

Dear Sirs:

A friend of mine and I are interested in starting a small air service. Will you please advise me where I can obtain informative literature on small airports?

WESLEY SCOTT

Horsham, Pennsylvania

The CAA has several booklets on the subject. Among them are "Airport Buildings," "Airport Planning For Urban Areas," "Small Airports," "Airport Management," and "Airport Design." These can be secured for a nominal fee from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. In addition, some of the aircraft companies put out bulletins on airports, such as Edo's "Air Harbors," and Aeronca's "Making Small Airports Pay with Aeronca."—ED.

•

For Women Who Fly

Gentlemen:

We read with interest the news of the Women Flyers of America in the January SKYWAYS. As flight operators, we are interested in an organization which encourages women's participation in flying and for this reason will contact the New York office for more details about their organization.

BYRON M. JOHNSON

Sidney, Nebraska

Which goes to prove occasionally we do come across the flight operator who actually welcomes the fairer sex. Hats off!—ED.

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WASHINGTON NEWS

BY ALICE ROGERS HAGER

One of the Air Forces' smartest propaganda moves in recent months was the flight of a remote-controlled B-17 Drone over the Capitol at a time when Congressmen had in their hands the Air Force budget for 1948. The Drone and its Mother Ship flew up from Eglin Field, Florida; veered out to sea at Richmond, Va.; dropped a remotely controlled dummy bomb on a water target; then turned back to circle over the lawmaker's heads while a radio commentator broadcast vivid descriptions of the planes' maneuvers. All safety meaures were observed, including a safety crew aboard the Drone. But the lesson was so obvious it is to be hoped that a sufficient number of Congressional spines tingled with the ice foreboding of Tomorrow's world to generate some deep thought along the lines of appropriations for research and development.

The Air Force budget already has suffered serious cutbacks en route to the Hill. The original plan for a 70-Group Air Force has come out of the ordeal with its surface appearance unchanged but with actual reduction by 15 groups so skeletonized as to be of little value, and the balance to be maintained at 80 per cent of wartime strength.

Construction or improvement of some 800 airports—at an estimated cost of $33,899,265 in Federal funds, matched by $37,692,600 in State and local money—will be the first-year program under the Federal Aid Bill passed in the last Congressional session. $26,676,466 has been alloted the States on basis of area and population by CAA, with 30 States receiving an extra $6,690,849 from the "discretionary fund" and $531,950 being apportioned to Alaska, Hawaii and Puerto Rico. $2,250,000 is reserved for planning, research and administration, leaving $8,850,733 for further allocation and special needs out of the total initial appropriation of $45,000,000.

It is encouraging to note that the entire fund allocated so far covers only smaller airports (Classes 1, 2 and 3) CAA is required by law to submit plans for proposed larger fields to Congress at least two months before the fiscal year when such funds are to be dispensed. Nothing could be done for such projects this year, since the Act did not become law until July 1, 1946. In consequence, CAA plans next year to give the bigger part of that appropriation to Class IV and larger ports, in order to balance the program.

The 1947 allocations will allow for construction of 232 new Class I fields (for personal flying); 109 new Class 2 (personal and local commercial); 44 new Class 3 (for small transports) and three new seaplane bases. Eighty-two Class 1, 177 Class 2 and 153 Class 3 fields will be improved. Texas has the greatest number of approved projects—70, with Montana and Idaho ranking second and third with 46 and 45 respectively.

New long-range radar units, worth nearly a million dollars, are in process of installation at the Washington National Airport and at nearby Andrews Field. Designed for exact plotting of aircraft in flight, they will consist of two MEW (Micro-wave Early Warning) units at National with a range of about 200 miles and a TPS-10 height finder, called "Little Abner." The present GCA system at Andrews is being supplemented by a Traffic Control Radar (CPN-18), with a 40-mile range. AAF controllers will man the scopes, which will be remoted to the CAA traffic control center in the National tower. CAA weather service also will receive from two other scopes. The Air Force will teach CAA controllers their use and it is expected that the civilian agency will ultimately make full use of the equipment in handling Washington air traffic. This is a highly commendable addition to the safety aids which CAA now offers airline operation, and a good example (following the offer to loan 20 GCA units for major airports) of Air Force cooperation in licking air transportation problems. Former leaders at Radiation Laboratory M.I.T. (Mass. Institute of Technology) will be glad to hear that some of their recommendations after VJ-Day are being given a trial.

Recent criticism by Congress of CAB and CAA for failure to make specific recommendations regarding new and improved devices that will raise the level of air transport safety have brought sharply into focus the long battle of ideas between the government agencies and the airlines. Overcaution on the part of CAA in trying war-developed radar which Army and Navy used with great success, and stubborn insistence on use of its own radio instrument landing system is well known to the industry. Reluctance of pilots responsible for safe flying of passengers to rely completely on mechanical aids under instrument conditions is another factor. But something must be done now—and done fast. Experienced aviation men hark back longingly to the days of the totally independent Air Safety Board, which was put on the pan for the sake of politics and then dismissed when the Roosevelt Reorganization took place in 1940. No one who knows the facts questions the efforts made by the air carriers to better their own good record—which reduced accidents from 2.1 fatalities for every 100 million miles flown in 1945 to 1.2 in 1946—but it still does not present a perfect picture. The year of no fatal accidents at all under Air Safety Board rule may have been an act of God—but if so, considerable help was given by the three men who grimly held operators and government men alike to standards so strict that they were considered a little fantastic. The test is that they produced the results and public confidence zoomed to an all-time high. Loss of that confidence now is reflected in nearly empty planes. The solution seems obvious if the men appointed to control safety are chosen for impartial integrity and technical knowledge, rather than for political influence. That solution is in the hands of the Congress.

A new booklet of the Aircraft Industries Association shows the progress made in development of constructive work for aviation. Its Technical Committee recommendations to various government agencies have risen sharply—from two in 1939 to 280 in 1945. Aircraft, engine, propeller, accessory and equipment sub-committees are all operating "to provide a vital link on non-competitive problems between industry on the one side and governmental and other agencies on the other."

Of special interest to private pilots is the work being done on noise abatement and simplification of CAA regulations covering aircraft design, performance, structural and flight test methods, operation rules, air navigation and airmen.

All pilots must carry their licenses at *all* times and be ready to produce them on request of any inspector or law enforcement officer, under a New CAA ruling.

NOTAM! All pilot certificates issued before July 1, 1945 expire July 1, 1947 and must be exchanged through CAA inspectors, regional or district offices before that date. There is no red tape and the new certificates will be good for two years or longer.

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GRAND CENTRAL AIR TERMINAL

1221 AIRWAY — GLENDALE 1, CALIFORNIA

(LOS ANGELES COUNTY)

UNDER PERSONAL SUPERVISION OF MAJOR C. C. MOSELEY, PRESIDENT AND FOUNDER SINCE 1929...ON OUR OWN HUGE AIRPORT—IN HEART OF THE AIRCRAFT INDUSTRY

Cruel and Unusual Punishment

AN EDITORIAL

ELECTING a current whipping boy seems to be one of the tenets of American journalism, an integral part of the freedom of the press. He may be anyone from a public enemy to the President of the United States, but whoever the chosen victim is, he is taken to pieces without fear or favor—and only too frequently, without regard to facts.

The victim of the moment is the air transportation industry. This winter's series of accidents, in which 45 people—including air crew members—have lost their lives, has been blown up into a sense of universal disaster in the public mind that is emptying planes to an alarming degree. With the financial overload the companies were already carrying, as a result of reconversion from wartime stringencies to peacetime luxury in equipment, the economic results are extremely serious.

SKYWAYS feels, at this point, that some really straight talk is needed to clear the air. A little lucid thinking on the part of the public would bring the realization that the airlines themselves are the first to want accidents eliminated. If you were the pilot of a plane, wouldn't your life be as precious to you as that of any passenger? Aside from that purely normal instinct for self-preservation, every pilot with any self-respect—and that percentage is far higher than that of the ordinary run of human beings—has a sense of duty to the people for whom he is responsible which has often risen to very real heroism. As for the companies, they stand to lose thousands of dollars in equipment and good will every time one of their aircraft is lost. They and the pilots, being human, are liable to make mistakes but it is so definitely to their advantage not to make any that can be avoided that the effort to preserve the margin of safety and to improve operations is an unceasing one.

We take this occasion to disagree with our friends, TIME and LIFE, who seem to be going out of their way at the moment to beat the whipping boy with such violence that it has become what is known to the courts as "cruel and unusual punishment." In the January 27th issue of TIME, a brief review of the situation and its potential cures in the use of new electronic devices for bad weather flying, is introduced with the following incredible statement: "The only safe airplane is one on the ground, with engines stopped, fuel tanks purged."

Extending that into other areas of this earthly existence, we could say with perfect truth, "You are only safe if you were never born." The number of accidents in the supposedly "safe" confines of the nation's homes is higher than even in automobiles on the public highways. TIME's statement is nonsense, an invitation to national cowardice and a turning back of the clock of national progress and security. Let it not be forgotten that air transportation is a public utility, of vital public concern.

We are also picking a quarrel with the railroads, whose consciousness of increasing airline competition has caused them to indulge in heavy lobbying in Congress and unscrupulous advertising in magazines and newspapers. A recent release by the "New England Public Relations Bureau" of Boston says: "Even the Fuller Brush man knows better than to knock his competitors.—It is therefore surprising in this age to note what seems to be the beginning of a campaign by American railroads to discredit commercial aviation.—In embarking upon such a campaign the first consideration of the railroads should be the ultimate effect of this type of approach. If it is not going to do the railroads any good, then it ought never to be attempted. If it is going to do the development of civil aeronautics harm, then the government which controls both the railroads and the airlines, ought to be interested." If the railroad accident rate were stacked against that of the airlines this past winter, a good deal of the "flair" of such advertising would disappear. A good many people have been killed in railroad accidents, yet neither the papers nor TIME have thought it necessary to single them out for caustic criticism. They just aren't as dramatic as one smashed airplane.

The truth is really told in a release from the Institute of Life Insurance of New York, which reports facts—not opinions—about what is happening in the life insurance field. Nobody accuses the actuaries of lack of caution. They don't lower rates until they have statistical reason for doing it. Yet on January 29th, this year, the Institute reported: "In recognition of the lower fatality rate on scheduled U. S. airlines, the trend toward liberalization in the issuance of life insurance to persons contemplating travel on these lines continued during 1946. Currently, 98 per cent of a group of representative life insurance companies surveyed will issue policies at standard rates to passengers on scheduled commercial airlines, compared with 87 per cent a year ago.—As the fatality rate per 100,000,000 passenger miles has dropped from 418 in 1935 to 3.1 in 1940, 2.1 in 1945 and *a new low of 1.2 in 1946*, the number of companies insuring would-be airline passengers at *standard rates without limitation has increased from 4 per cent in 1935 to 84 per cent at the start of this year. This is in recognition of the persistent trend of increased safety on the scheduled U. S. airlines from 1935 to 1946—which does not, of course, include that of non-scheduled transports, military craft and foreign planes, all of which have figured in news reports of airplane accidents in the past few months.*" (The italics are SKYWAYS'.)

Everybody wants 100 per cent safe flying. Conditions can be improved. Congress must inaugurate a national air policy and give CAA sufficient appropriations to enable it to install the very best instrument landing equipment and radar devices available immediately—and to continue research into still better ones. The airlines and CAA can do a better job of cooperation in selection of these devices.

Let's give them a chance to do it!

J. FRED HENRY

PROP WASH

Aero Oddities

Hunt an' Peck. Salesman-pilot Robt. Peck sells insurance by air. In Aeronca *Champion,* Peck spots customer's house, lands in nearby pasture, calls on client. Brief hop in plane usually serves as clincher to insurance sale. (*W. H. Patrick, Rolla, Mo.*)

Outlaw In. When late delivery of film, "The Outlaw," threatened to delay opening of Dallas, Texas, theater, theater manager J. D. Dillhouse SOS'ed the airport. Pilot E. Rowland came to rescue by delivering reels via helicopter, directly to door of the theater. (*Mrs. R. C. Rogers, Dallas, Tex.*)

Forced Landing. Pilots K. G. Drew, E. McLeary landed their plane on highway during bad storm. Taxied down road to service station for gas supply. Found name of station was "The Fly Inn," owned by Mr. Fly. (*Edw. McLeary, Ephrata, Wash.*)

Wrong Toot. Pilot M. L. Armstrong in 40-hp Taylorcraft glided down over Fort Pierce, Florida, drawbridge, cut gun, gave three toots on portable horn. Drawbridge attendant had bridge half opened before he discovered no boat in sight. (*M. L. Armstrong, Daytona Beach, Fla.*)

Air News. When rural youngsters complained because Sunday papers were not delivered 'til Sunday night, Pilot Salmon flew to village, picked up neighborhood papers, flew back, dropped them, rolled-up, in neighbors' yards. Delivered 29 papers in 31 minutes Sunday morning. (*E. Salmon, Pattonburg, Mo.*)

Chip Off Young Block. Charles Clemence, 62, of Danvers, Mass., watched son taking flying lessons. Decided there was nothing to it, signed up for course, soloed in 8 hours. (*H. Helfer, Arlington, Va.*)

Shortest Distance. Naval Reserve fighter pilots, on practice maneuvers on West Coast, were startled by message over plane radio, "Be home by six, dear, for dinner." It was Squadron Leader Wayne Morris, movie star, talking to wife who has aerial talkie at home.

Flying Firemen. Two pilots flying over Odell, Illinois, spotted fire on roof of farmer's house, buzzed the place to give the alarm, then landed, helped put out blaze, promptly flew off again.

Aerial Delivery. Mrs. Rita Vega, aboard American Air Export-Import Company plane, gave birth to baby boy at 9:05 A.M. as plane was over Acklin Island in the Bahamas. Capt K. Stoeckman, plane's pilot, assisted the delivery. Baby was named AAXICO.

Uncovered. Council Bluff's (Iowa) E. P. Medley asked city to re-route passenger planes. Said they flew low over his house, creating suction (via props) which pulled off his bedcovers!

What Comes Nat'rally. At least three Northwest Airline pilots are well named. They are: Paul Thrush, Russel Bird and Lawrence Pigeon.

Out to Lunch. Farmer Nelson, Fergus Falls, Minn., couldn't find lost cattle. Chartered plane, spotted animals feeding in neighbor's haystack.

Att'n Readers:

PROP WASH is your column. If you have any news-note oddities pertaining to aviation, send them to SKYWAYS, *Prop Wash Editor, 444 Madison Avenue, New York 22, N. Y. Five dollars will be paid the sender of each "oddity" printed on Prop Wash page. In cases of duplication, the Prop Wash contribution first received at the office of the editor will be honored. Contributions cannot be returned unless they are accompanied by stamped addressed envelope. Decision of the editors is final.*

TAY back in 1930, the first Learavian appeared. In no time ll it was the private pilots' pride. d it's been aces high ever since.

lay's Learavian is the latest of long distinguished line. It's the er-portable for pilots, reflecting y advance that radio has made. overs three bands, range and con- towers, broadcast and aircraft munication. It works on the nd and in the air with its built-in loop, or with a plug-in outside antenna. There's a built-in speaker, or you can plug in earphones when you prefer. And the power can be AC, DC or the self-contained batteries.

All in all it's a heap of fine, efficient aircraft radio packed into 14 lbs. 3 oz. Let us send you all the particulars about it. Write: LEAR, Incorporated, Aviation Radio Sales, 110 Ionia Ave., N. W., Grand Rapids 2, Mich.

LEAR

The Name Men Fly By

RADIO

ALL-TURBINE carrier fighter is Ryan's XF2R-1. GE turboprop is in nose, turbojet in tail

MILITARY AVIATION

Propeller-cum-Jet

NAVY'S hotter *Fireball*, the Ryan XF2R-1 has been flying since November at the Muroc Lake desert test base, where they call it the "dark shark" *Fireball*. What makes it hotter than the original FR-1 composite fighter is the use (for the first time on a Navy X-fighter) of General Electric's TG-100 turbo-prop, or "prop-jet" engine. You can take your choice of either of these shorthand terms for the engineers' "gas turbine for propeller drive," or the British "propeller/turbine engine." "Turboprop" emphasizes that it basically is a rotary turbine and not an up-and-down engine, and indicates that the main aerodynamic drive is from a propeller, rather than from a jet exhaust, as in the "turbojet." However, "prop-jet" has a point in calling attention to the fact that while most of the turbine-derived power turns a geared propeller (usually 70 to 75 per cent), the balance provides additional thrust through a jet exhaust.

This TG-100 unit is designed for 2,400 shp (shaft horsepower) and 600 pounds of jet exhaust thrust. This is equivalent to about 2,700-hp for take-off, and thus is about double that of the Wright 9-cylinder *Cyclone* in the FR-1. Tail unit in both models is the same, the General Electric I-16 turbojet, which delivers 1,600 pounds of thrust.

Dark Shark

The Ryan XF2R-1 gets this nickname (not an official name for the aircraft) from its shark-nose and dark finish. This all-turbine fighter has a similar combination power plant to that of Consolidated Vultee's XP-81, which has the larger I-40 in the tail, and which was first test flown in January 1946 at Muroc. Contrary to popular opinion, the top speed of the FR-1, valuable as this model was in the pioneering of the propeller and jet combination power plant, was only about 420 mph. This was less than the latest *Corsair* (F4F-U) and the Grumman *Bearcat* (F8F). However the new Ryan job should easily top 500 mph. With both power plants operating, take-off run is very short and climb is said to be out of this world. The plane can, of course, land or take-off with either unit out, but performance is not as spectacular. The combination does away with the well-known sluggishness and lack of flexibility at low speeds and low altitudes of the pure jet fighter, making both Ryan models "all-altitude" high-speed aircraft, with excellent maneuverability. It will be of more than passing interest when Navy gets a Ryan propeller-cum-jet XF2R-1 and a McDonnell twin-jet XFD-1 *Phantom* together at Patuxent for comparative tests on some of these points. Some engineers are of the opinion that the pure jet job will do a whole lot better than the BuAer power plant boys dared hope when this type was first projected in 1943.

AAF Planes: 30 to 1

In 1945 over 30,000 military aircraft were procured by the Army Air Forces. This included the last eight months of the war. In 1946, the first year of "peace," a total of 1,010 planes were delivered. Under the Air Industrial Preparedness Program, one of the responsibilities of the Air Materiel Command, an annual procurement of at least 3,000 military aircraft is believed necessary to maintain the aircraft industry at a healthy level of production. This is also the figur arrived at by an independent survey of th Air Coordinating Committee (War, Navy State, Commerce). This is in the light o future emergencies and possible nationa commitments on an international level unde the U. N. Security Council.

During 1946, out of 453 fighter planes de livered to the AAF, 411 were jet propelled, a indication of how rapidly even the best pisto engine fighters of the last months of the wa have been rendered obsolete by the turbojet This is strikingly revealed by an analysis o AAF fighter procurement from 1943 to 1946 From the XP-79 to the XP-93, all but one (th XP-82 *Twin Mustang*), were powered by ga turbines built by General Electric and West inghouse. This is a total of 14 jet fighters i the works, apart from the pioneering Bel XP-59A. As the designations (and many other facts) have been published in one wa or another, here is the complete list fo reference. A goodly crop will take to the ai during 1947. Northrop XP-79, Lockheed P 80A, Consolidated Vultee XP-81, Bell XP 83, Republic P-84, (all of these have flown) McDonnell XP-85, North American XP-86 Curtiss XP-87, McDonnell XP-88, Northrop XP-89, Lockheed XP-90, Republic XP-91 Consolidated Vultee XP-92, Lockheed XP 93. Some also have rocket units.

The jet bombers are only one jump be hind, with 10 now under development. Firs to fly (May 1946) was the Douglas XB-43 with the North American XB-45 and Convai XB-46 rarin' to go as of right now. Other include the Boeing XB-47, Martin XB-48 and Northrop flying wing XB-49 (all heavy bombers). In the fast, medium-weight attack bomber class (formerly in the A- series) are the Martin XB-51, Boeing XB-52 and Convair XB-53, to which may be added th Curtiss XA-43 which is reported to be back in the running again as a promising design In case you noticed, the only missing num bers were the XB-44 prototype and XB-5 production model of the *Wasp Major*-pow ered Boeing *Superfortress*.

More Jets for Navy

A similar round-up of the Navy jet pro gram reveals distinct progress. Six jet fight ers, all suitable for carrier operations, hav been test-flown and announced. These ar the Ryan FR-1 *Fireball* and XF2R-1, th McDonnell FD-1 *Phantom*, the Chanc Vought XF6U-1 *Pirate*, the North America XFJ-1, and the Curtiss XF15C, the latte powered by a piston engine with prop an a (British) de Havilland H-2B turboje (similar to the *Goblin*) built by Allis Chalmers. Four other jet-propelled fighter are in the works, including the McDonnel XF2D-1, the Chance Vought XF7U-1, th Douglas XF3D-1, and the Grumman XF9F- reported to be powered by the Rolls-Royc *Nene I* (see *Skyways*, March, 1947, p. 2 for a cutaway of this powerful turbojet).

So far there are three jet bombers in th Navy Program. Two have mixed powe plants (piston engines and turbojets), th Grumman XTB3F-1 torpedo bomber and th Martin XP4M-1 patrol bomber. A pure je attack bomber is the North American XAJ- Others may be in the planning stage.

This makes a total of no less than 37 je fighters and bombers for AAF and Navy— something of a technical revolution. N.F.

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Spartan is fully approved for training under the G. I. Bill of Rights

FARMERS throughout the country are adding Piper *Cubs (above)*, Aeronca's, etc., to their lists of useful farming equipment

Mr. Buyer--BUY A USEFUL PLANE

Today's airplanes offer their owners utility . . . a wise buyer considers this

ONE thing Mister Average Man has learned—and sometimes the hard way—is to get the most out of his money. This, not entirely for economic reasons but because it is good sound horse-sense. A prospective plane owner owes it to himself *and his family* to buy the plane that they'll get the most use from. Oftentimes the only difference between a satisfied plane owner and a disgruntled one is time—the time the plane buyer *didn't* take to study the aircraft market in order to make the proper choice of airplane.

The keynote to happy plane ownership is utility, the good and profitable use to which the owner puts his aircraft. To make certain that your participation in aviation is the right one for you, the one that repays you in usefulness as well as enjoyment, study the new planes on the market today . . . and don't lay your money on the line for any airplane other than the one that best fills your particular need, be it business flying or pleasure hopping.

To help you pick out the right airplane, let's analyze the new ones that are available. By putting them in cost classes, you'll be able to fit your choice to your pocketbook, its usefulness to your need.

$2,000 to $3,000:

The least expensive planes today, from the standpoint of initial cost as well as operation, are the Piper *Cub* ($2,295), Aeronca *Champion* ($2,475), Aeronca *Chief* ($2,665), and the Cessna 120 ($2,695). They are all two-place airplanes. The *Cub* and the two Aeronca's are powered by 65-hp engines whereas the Cessna 120 has 85 horses up in the nose. This slight difference in engine horsepower gives the 120 a higher cruising speed. The difference in operating costs between 65-hp and 85-hp engines is very little, however. The *Cub* with 65-hp engine burns 4.4 gallons of fuel per hour at cruising speed of 73 mph, while the *Champion* uses just about the same quantity at a cruising speed of

By D. N. AHNSTROM

CROSS-COUNTRY flyers, who use planes for business as well as pleasure, usually prefer ships with longer range and higher cruising speed, *i.e.* two-place Cessna or four-place *Voyager*, than the less expensive tandems

90 mph. The 120 burns gasoline at the rate of about 7 gallons per hour at 110 mph cruising.

The planes best suited to cross-country travel in this category are the Aeronca *Chief* and the Cessna 120, both from the standpoint of range and baggage that can be carried. This does not mean, however, that the *Cub* and the *Champion* aren't being used. Many of them are and satisfactorily, too. It does mean, however, that if a buyer wants to use his airplane for around-the-country business travel or sports activities and also wants to be able to carry a fair amount of luggage with him, whether it's business luggage or hunting (*Continued on page* 60)

CHARTER OPERATORS look toward such ships as the Beech *Bonanza* or the North American *Navion* because of their "big-plane" performance at "small-plane" cost. Higher first cost is offset by fairly low upkeep estimations

SLEEK LINES of the new Aeronca *Chum* are shown in this low-angle photo (*left*). This ship offers the pilot good visibility

TWO-CONTROL *CHUM* has plenty of "feel" in the air; performed such maneuvers as Chandelles, lazy-8's, loops

Pilot's Report . . . The CHUM

"HELLO! Operator?—I'd like to speak to Mr. Lou Wehrung, chief test pilot of Aeronca Aircraft, Middletown, Ohio."

I waited with some misgiving as I had been trying to arrange a flight in the Aeronca *Chum* for the past six weeks, but the weather man and Aeronca's experimental engineering department had not co-ordinated to the extent of making it possible. Lou told me several days previously that engineering had promised the *Chum* would be available to me this afternoon. I had been keeping my fingers crossed as it alternately rained and snowed every day, and today I seemed to be getting a break. There was a broken layer of clouds at 2,000 feet and a high overcast, but no snow or rain and the weather man had given me his ever so solemn promise of clearing weather by afternoon.

"Hello!"—"Mr. Lou Wehrung?"—"Yes"—"One moment please, Dayton calling."

"Hello! Mr. Powers?" (I had called him so many times that by now he knew a call from Dayton must be from me.) "Engineering has promised that the *Chum* will be ready to fly by noon today." "Good," I replied, "I can be down there about 2 o'clock if that is convenient with you." He replied that it was, so the date was finally set.

To say that I was looking forward with anticipation to flying the *Chum* is putting it mildly. During the six weeks which had elapsed since I had first contacted Mr. Davis, chief of advertising and publicity for Aeronca, regarding the possibility of flying the *Chum* for the (*Continued on page 62*)

By EMORY POWERS

TEST PILOT Lou Wehrung of Aeronca has put in plenty of hours testing the new *Chum*. Shot here, with Wehrung at controls, shows roominess of cabin

WIDE DOOR, opening forward, blocks stepping off toward prop

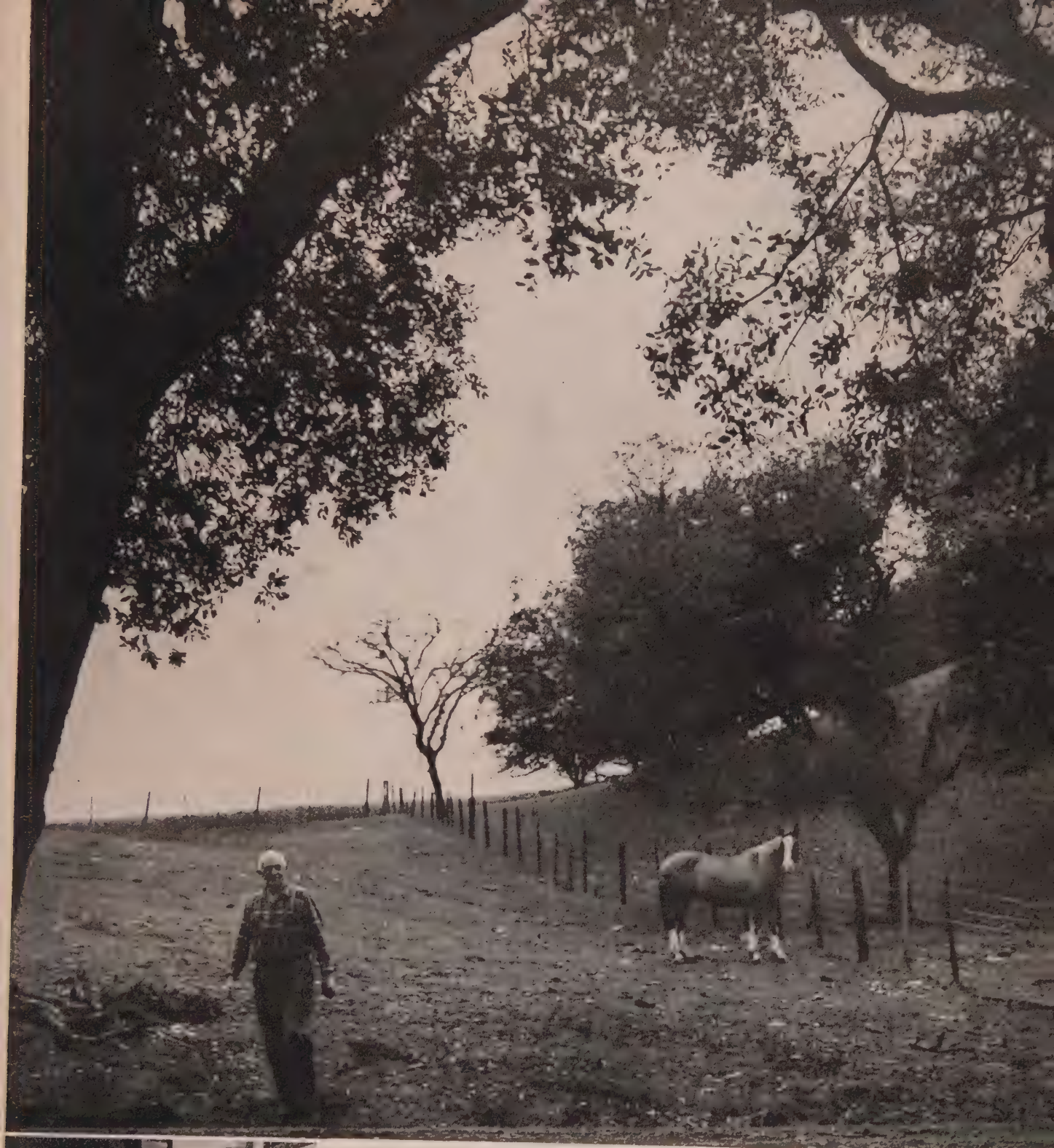
GENERAL ARNOLD'S hometown is Sonoma, California, 40 miles north of San Francisco. When the General isn't busy taking care of his ranch, particularly his garden *(right)*, he writes a farm column for the Index-Tribune

From Fighters to Farm

By DON DOWNIE

GENERAL of the Army (Air) Henry H. Arnold, USA Retired . . . that's his official title now, but don't let that word "retired" fool you. While the man who led the AAF to victory in World War II is officially inactive, as far as his friends are concerned Hap's anything but a retired general. His interest in the air forces is no less strong today than it was when he directed them. It's just that now he has time for other interests no less important to him. Your *SKYWAYS'* reporter found that out when he visited General Arnold at his home in Sonoma, California.

The Arnold ranch, on the side of a rolling hill,



HORSES are the General's favorites. They are pastured on the rolling hills of the Arnold ranch. And, as Hap puts it, "there's always work to be done on a farm." Below he helps farmhand. Evenings he relaxes with a book

GEN. & MRS. ARNOLD are a distinguished couple enjoying their "retirement." The outdoor chores are Hap's department, but indoors, it's Mrs. Arnold who is the general

is a secluded place . . . and the neighbors, proud as they are of their fellow townsman, honor that seclusion. So much so, in fact, that it took your reporter some time to locate the Arnold residence.

The General, clad in a bright plaid shirt and well-worn moccasins, greeted me at the door. Though the weather was the kind of stuff the California Chamber of Commerce denies, he lost no time in offering to show me about the place.

"It'll give Mrs. Arnold a chance to get the dishes done before I show you the house," he said.

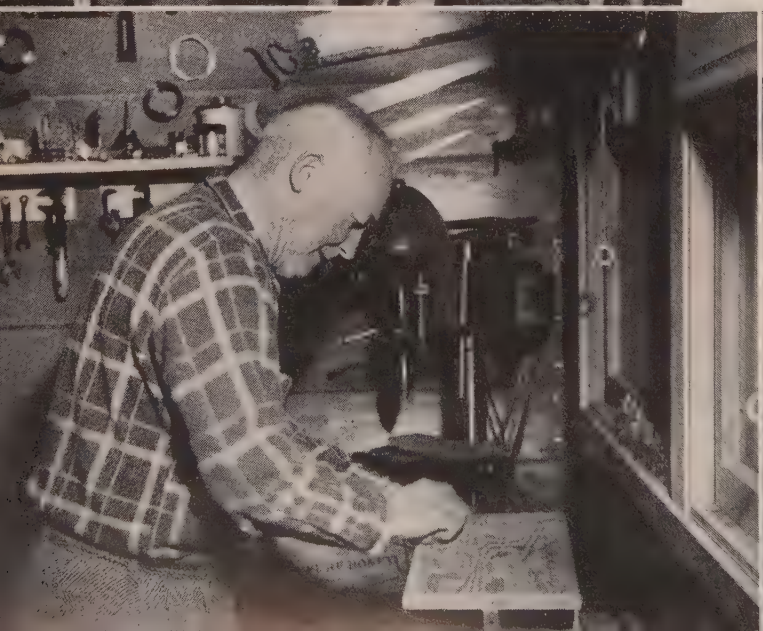
So off we went on a tour that showed what a working man the General is. There was a garden, complete with radishes ("you'll never eat better ones," said Hap), a chicken coop, a pet hound dog, a large barn, a cow . . . and the General's favorite saddle pony, named "Hap-horse." And finally the house, a spacious, well lived-in home. Bookshelves cover the walls, and there are pictures, hundreds of them, from Casablanca, Teheran, London, Washington, etc.

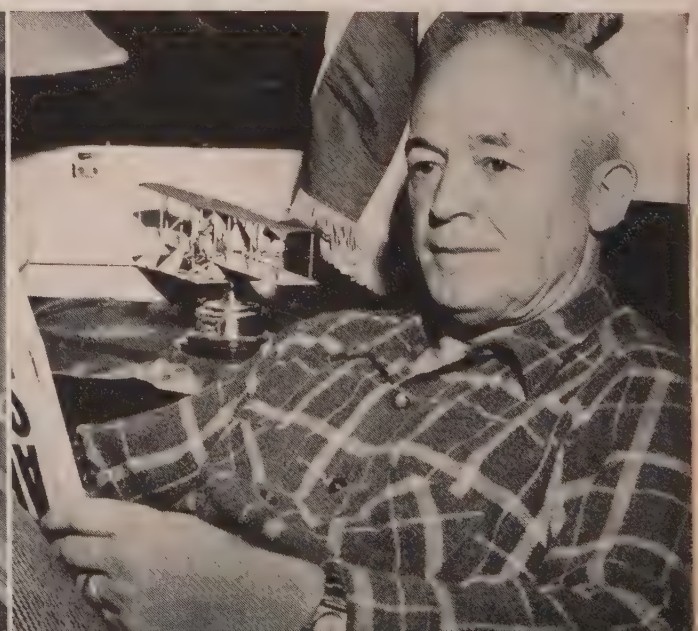
Yes, the General has a hobby . . . wood working. And he has one of the best-equipped wood-workshops ever to grace a private home. ("I've made a lot of our furniture," he mentioned proudly.)

Mrs. Arnold is most gracious and charming. She is the type of competent woman you would expect to find backing up a prominent man. They are, indeed, a most distinguished couple. And Hap is happy . . . and proud.

"I'm a man of position here," he said with that famous Arnold smile, "I'm a county game warden . . . and that's a real job."

WOODWORKING is the General's five-star hobby. He's as much at home with a lathe as he is in a cockpit. Model plane *(below)* is inscribed with "Arnold soloed, 1911"





PAY AS YOU FLY

For increased utility, finance your useful extras at the start

By N. F. SILSBEE

THIS country may turn out 40,000 personal airplanes during 1947. If you want to buy one of them, and if you also intend to be in that group of airplane owners who get the most out of their planes in the way of pleasure and profit, this is for you. If you already own a plane, but are still more or less of an "airport flyer" or in other ways are not getting out of your plane all that you think you should, this is for you, too. The pilots who get the most enjoyment out of their planes are those who are able to use them for specific purposes. They use their planes to help them in their business, they fly to hunting, fishing, skiing or vacation spots, they visit people or go to places they want to see.

It very largely comes down to what you get when you buy your plane. Are you getting a "bare" airplane with a minimum of necessary instruments with which you can fly in practically perfect weather only, under clear contact conditions, and hit only a few airfields within a radius of say 100 to 150 miles of your home 'port? On the other hand, by paying a few hundred dollars more for the essential extras, or going into a higher price bracket where these are included as standard equipment, will you be getting a plane with built-in utility?

High on the list of these "essential extras" is a two-way radio (see *Skyways*, May 1946, "Radio is a Must"). In certain sections of the country, or in certain seasons, the addition of floats or skis will increase the utility of your plane many-fold. A variable-pitch propeller will not only enable you to use restricted fields not otherwise available, but will improve economy of fuel in cross-country flights. Engines with direct fuel systems instead of carburetors are rapidly gaining in favor as completely eliminating the danger of icing. This is not only a year-'round safety factor, but it adds to your plane's utility season-wise. Navigation and landing lights will mean that you will not have to watch the clock anxiously around mid-afternoon during business calls, dash off to the airfield and get home or to your next stop before old Sol has dropped below the horizon. This increases your plane's usefulness time-wise. And in these hangar-scarce days, in order to give your airplane some protection from the weather, a sturdy cover is available which can be slipped on and off in two or three minutes. From the standpoint of safety (which also adds to utility, as increased confidence means that you'll *use* your plane more) there is a new stall warning indicator which flashes a light and sounds a horn at the approach of a stall. This has been proved to be so effective that insurance rates on planes so equipped (*Continued on page 64*)

ESSENTIAL EXTRA giving built-in utility is a two-way radio

For states in which to use this form see reverse side.

AIRCRAFT CONDITIONAL SALE CONTRACT

This Form is Subject to State Legal Requirements

Date March 18, 1947

Customer's Name and Address: Edward J. Smith (Name) 144 Parkway (Number and Street) Air City (City and Postal Zone) Pennsylvania (State) (Please Print)

To Veterans Flying Service (Name of Dealer (Seller)) Seller's Address: Municipal Airport (Number and Street) Air City (City & Postal Zone) Pennsylvania (State)

Customer (which means all purchasers jointly and severally) has today purchased on the following terms and has examined and accepted in its present condition from Seller the following AIRCRAFT and EQUIPMENT (hereinafter termed "aircraft"):

New or Used	Model	Year Mfr'd	Manufacturer of Aircraft	Manufacturer's Serial No.	C.A.A. identification Mark	Gross Weight	Engine(s) Make and Model	Engine No.(s)
New	PA 12 Super Cruiser	1947	Piper Aircraft Corporation	1457	NC 28957M	1750#	Lycoming 100 H.P.	0000000

1. Cash Price (including extra equipment and $ 3295.00 Sales Tax) $ 3295.00
   (Itemize extra equipment) 1 - Two way Two Band Hallicrafter Skyfone Model CA-2
2. Description of and Allowance for Trade-In $
   Year Make Model Serial No.
3. Balance After Deducting Trade-in Allowance (Item 1 minus Item 2) $
4. Cash Down Payment $ 1099.00
5. Unpaid Balance of Cash Price (Item 3 minus Item 4) $ 2196.00
6. Insurance Premium CIC PL 10-20 PD 10 $ 711.00
7. Total Amount to be Financed (Item 5 plus Item 6) $ 2907.00
8. Finance Charge $ 290.70
9. Time Balance (sum of Items 7 and 8) $ 3197.70

Payable at the office of Universal C.I.T. Credit Corporation in 23 consecutive monthly instalments of $ 133.24 each and one final instalment of $ 133.18, on the same day of each month. First Instalment Becomes Due April 18, 1947 Date of Final Maturity March 18, 1947

The aircraft will be kept at: Municipal Airport (Address) Air City (No. & Street or Hangar & Airport) Lake (City) Pennsylvania (County) (State)

Seller warrants that he is the absolute owner of and has good title to the aircraft and the same is free and clear of encumbrances except: None

(If none other than this contract, indicate "none.")

Title to the aircraft is retained by the holder hereof (meaning Seller, or Universal C.I.T. Credit Corporation [hereinafter called "Universal C.I.T."] if this contract is assigned to it, until the time balance is fully paid [or

CROSSWIND . . . Take-offs

You can land though the wind is South and the runway's East

MR. JORDAN checked his instruments carefully and then allowed himself a glance at the two-dimensional earth below him. He chuckled as he passed car after car on the road, and remembering the punishment his own sedan always took on the last rutted mile before he reached the hunting camp, he felt very satisfied with life, himself, and his new airplane. In less than an hour (he busied himself with his computer) he would land on the small strip a few hundred feet from camp and greet his companions, who would be ready to turn in after driving over the washboard back roads all day.

Mr. Jordan had first ridden in a plane 10 months before. From that moment he knew he wanted a lightplane of his own. He drove to the airport from his office at the bank almost daily until he soloed. He spent three weeks of his summer vacation getting his private license. A month ago his airplane had been delivered, and as he learned its ways and hopped admiring friends around the airport, he planned his hunting trip.

Now he saw ahead the hunting cabin, and just to the right the little section of road, unfinished and unused, that would serve him as airport. It was a good 2,500 feet long, but it looked very narrow from the air. As he turned on his downwind leg he found himself drifting sharply away from the field. He corrected neatly. A glance at the smoke from a neighboring cabin confirmed his worst suspicions. He had a crosswind at a 45° angle to the strip, blowing at least 15 mph.

Mr. Jordan was a man of circumspection. He made a wise decision. He increased his throttle and made three large circles around his "airport" while he thought hard about crosswind landings. For although his instructor had shown him how to correct for drift by crabbing on the approach and kicking rudder just at the stalling point in order to land in line with the runway straight ahead, Mr. Jordan had practiced the maneuver only in light winds . . . and, too, stalls and spot landings seemed more important as the day of his test drew nearer. Now he had strong doubts of his ability to land the airplane intact on the narrow strip, bordered by trees and undergrowth, instead of the wide turf-edged runways he was accustomed to.

Mr. Jordan made a left turn onto a long final approach and pointed the nose (to the left) into the wind a little. This was fine. Minutes later, it seemed, he found himself inches off the ground, well centered on the makeshift runway. He eased back on the stick, felt the beginnings of a stall, ruddered the plane straight with the strip—he hoped. Everything happened very fast then, so fast that it took Mr. Jordan some time afterward to figure out just what had happened. Instead of landing immediately, the plane had drifted into the ground, hard, and ground-

By LIB and WIL BIGLER

and Landings

UPWIND WING (in photo) dips as pilot, holding opposite rudder, lines up with runway. Technique is similar to forward slip, but objective is drift compensation

looped. Mr. Jordan surveyed his badly scraped wing-tip and his hurt pride with equal concern.

Any lightplane pilot who wants to go places (and what private ticket holder doesn't) will always depend to a certain extent on one- or two-strip fields. Vacation spots peculiarly accessible to pilots—highway flightstops, resort fields and small town airports—will continue to be built in Class I, II and III categories. And although these fields are built with an eye on the prevailing winds, anyone who flies from an east-west strip knows it's an even bet the wind will be blowing from a north or south quadrant when he goes out to put on his wings.

Accidents resulting from poor pilot techniques in landing or taking off crosswind seldom cause death or serious injury, but they can and do account for extensive damage to aircraft. Groundloops, and sideloads incurred by touching down while drifting (the two main crosswind hazards) have resulted in scraped wing-tips, cracked spars, broken propellers, and sheared landing gear.

Of the two maneuvers (take-offs or landings) the landing presents more difficulty, whether mental or actual. The kind of crosswind landing Mr. Jordan tried to make is a perfectly *(Continued on page 86)*

COMPLETE PATTERN for crosswind landing shows approved crabbing into wind up to 100 yards from contact point, when plane straightens out with upwind wing low. Degree of bank depends on wind velocity

FIXED versus

For FIXED LANDING GEAR — Gilbert Paust

I'LL admit perhaps I am prejudiced about fixed landing gear, for my own ship is so equipped, but on the other hand I have flown many types with "folding feet." Of course each type has its cheering section and each gang of rooters feels his arguments are best.

In the first place it is one less gadget to think of, and as the personal plane owner and pilot usually flies for fun it is that much less to detract from the details of flight. Manufacturers, forever striving for simplicity in aircraft design and the technique of flying, apparently feel that this matter of the retracting gear is one for the more experienced pilot. Notice just what types of aircraft are equipped with it. They are the faster, more "slippery" types—or are military aircraft.

It is said that extended gear greatly slows down the aircraft. To a certain extent this is true, but unless the ship is designed for speed alone this loss of performance is not so great that the layman pilot could consider it important. It is possible that ex-service pilots will prefer retracting gear, but they are used to the details of attending to it after take-off and before each landing. With them it is routine.

Of course there are warning devices to "prevent" a pilot from landing with his gear up instead of down. There are horns, flashing lights, protruding red markers, etc., *but* don't forget the story about the cadet who was spotted coming in for a landing with his wheels neatly tucked into his wings. The "tower" frantically screamed at him to get his wheels down fast but he sailed right in. When they asked him if he hadn't heard the "tower" telling him to lower his wheels he said: "I might have, if it hadn't been for some blank blank klaxon blowing right in my ear!" It could be anybody.

Retracting gear, whether manually or mechanically operated, requires additional accessories and equipment to raise and lower it. I prefer the fewest gadgets possible commensurate with first class performance and safety. With that in mind, the fixed gear offers the average private pilot that much less to think about and maintain.

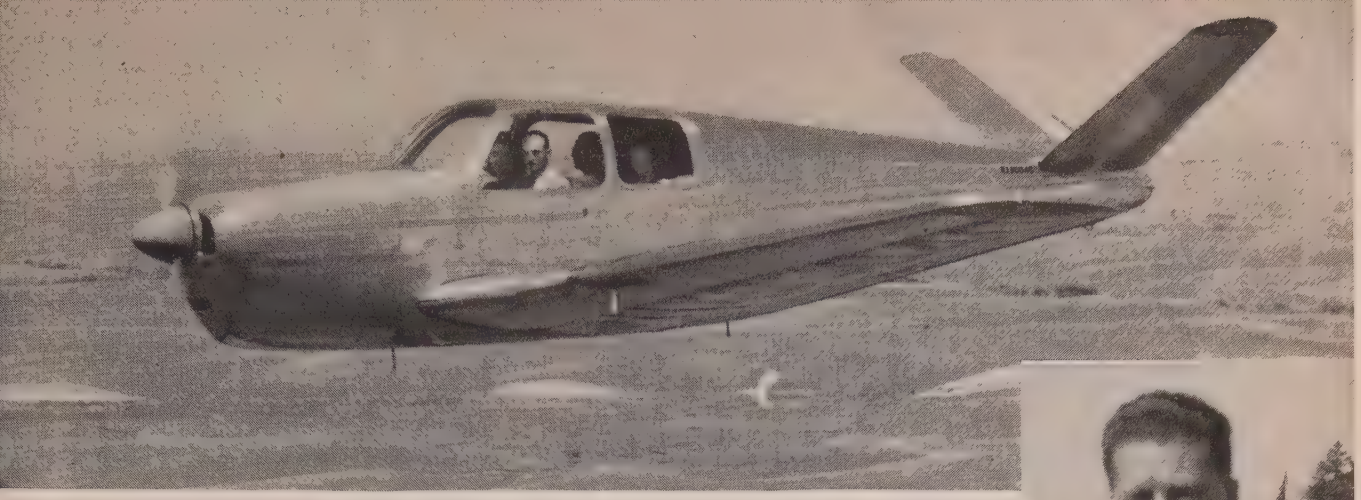
That word "maintain" means a lot to the pilot/owner of a ship with retracting gear. Careful and frequent inspection of every detail of the gear and its operation units is imperative whether it's a civilian or a military ship, for perfect function both in the air and on the ground. (Retracting gear has been known to do just that while on the ground!) Looking at all angles of the "gear" picture, I'll cast *my* vote for the *non*-retracting type.

Captain Gilbert Paust, Group Training and Operations Officer of Group Nine of the New York Wing of Civil Air Patrol, champions the fixed landing gear. The hundreds of hours in his log book are the foundation for pretty definite opinions.

AIRMEN OF THE JURY*

This is YOUR page for debate on all sides of the many phases of the aviation picture. Here, airmen of all ages and "hours" may hear the pros and cons of arguments old or new, the question of the merit of designs, equipment and procedures of interest to you all, and then express YOUR views via the coupon. The value of this page to you and the industry will be in proportion to the number and enthusiasm of the "Airmen of the Jury" who take active part. Verdict on High vs. Low Wing (February issue): High Wing, 73%; Low Wing, 27%. This month the Retractable meets the Fixed Landing Gear. Here are the verdicts of two airmen. AIRMEN OF THE JURY, WHAT'S YOURS?

* Conducted by C. B. Colby



RETRACTABLE

For RETRACTABLE GEAR — Arthur Yadven

DURING my more than 10 years of flying, both in service and as a civilian, I have flown many different types of aircraft. Some have had retracting gear and some have not. Naturally, they were most common on the military aircraft.

That point right there seems to me to be one of the most important selling points of retracting gear design, if any "selling" is needed. Aircraft have been developed as a speedy means of point-to-point transportation, and anything contributing to the speed of this "straight-line travel" is an asset. Retracting gear has been one of the greatest contributions to this speed, for nearly one third, and sometimes more, of the all-over drag of any aircraft is from the extended landing gear.

With this gear eliminated, better performance, maneuverability, range and flight characteristics are at once possible. With manufacturers everywhere striving for that elusive "500-mile range" in personal aircraft, one of the best built-in "range stretchers" is the retracting gear.

Another point that I can vouch for from personal experience is the added safety in forced landings of aircraft equipped with gear of retracting design. With a fixed gear you have no choice but to try and set her down in a fairly smooth field without ditches, holes, or hummocks, any of which can spell noseover or groundloop and a crash.

With gear retracted, almost any plane may be belly-landed with a minimum of danger to the occupants. The low-wing and smooth belly of the ship enables it to skim over ditches, holes and hummocks and come to a stop without danger of nosing over.

As for the pilot forgetting his gear, warning devices of klaxon horns and blinking lights are there to remind him, and should he forget, a wheels-up landing, as mentioned above, isn't the hazard it might seem. With a solidly designed and constructed fuselage they may be an asset rather than a liability "in case."

Personally I feel that retracting gear is good for pilot training, especially for potential military airmen. Perhaps in the primary stages the gear should be locked in the extended position, but in the secondary retracting gear should be "routine."

In the small personal plane with its minimum of gadgets and instruments, the possibility of overlooking the operation of the gear would appear to be unlikely even by the "absent-minded professor," and for him there are the warning devices.

A majority of future personal aircraft will undoubtedly be equipped with retracting gear either manually or mechanically operated.

Short, stocky Arthur Yadven, instructor at Westchester Airport, N. Y., learned to fly at Floyd Bennett in 1936. He makes no bones about it, he's all for the aircraft that can literally tuck up its feet and "git."

AIRMEN OF THE JURY

This is your ballot on Retractable vs. Fixed Land'g Gear.

I favor Retr'ble_____ I favor Fixed_____

BECAUSE: _____

_____

_____

_____

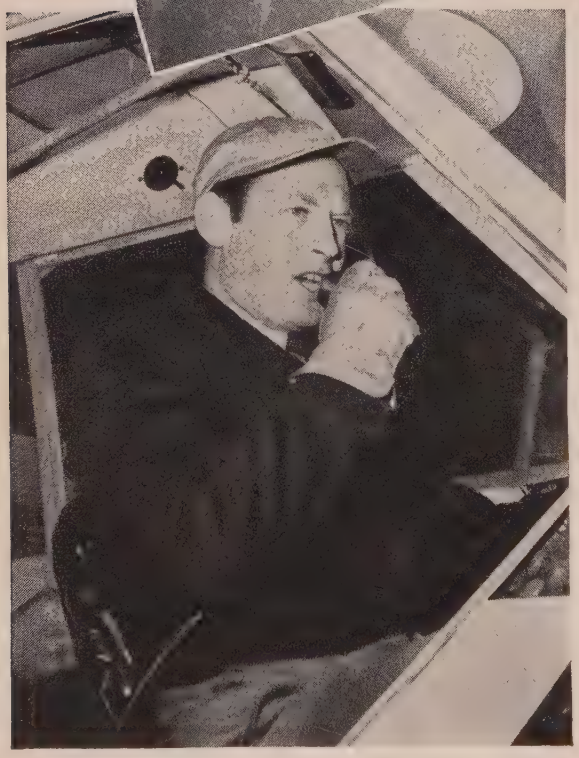
_____

Name_____ License Number_____ Hrs._____

Address _____ City_____ State_____

Do you own a plane?___ Make_____ Type_____ H.P._____

From the REAR 'PIT



TALKATIVE INSTRUCTOR, posed *(above)* by Ian Mackenzi of Hicksville, starts his jaw working and never stops. Then there's "handy" type as posed by Bill Kent

IN the early days of flying when pilots were daredevils and when 50 feet above ground was dangerously high, people had numerous mistaken ideas about pilots and airplanes. Today with the increased emphasis on personal aviation these early misconceptions have largely disappeared.

There remains one misconception which is common to everyone except student pilots who, up to this moment, have chosen to remain silent about it. Now student pilots are admittedly ignominious fools who still land downwind or make nose-high turns if given the slightest opportunity to do so. Yet it falls the lot of these "dodos" to debunk the idea that flight instructors are human beings endowed with a normal amount of sympathy and understanding. Student pilots alone are capable of revealing the sordid and disillusioning truth about flight instructors because they alone have spent interminable hours staring at the back of an instructor's uncompromising head and listening to an unending stream of abuse from a one-way Gosport speaking tube. This combination of staring and listening is a revealing one that gives a student a shocking insight into the character of his instructor. Ordinarily these revelations would re- (*Continued on page 66*)

By RALPH B. HARDEN

From the FRONT 'PIT

EVERY profession, as it approaches maturity, has its hecklers. In the middle ages, many a scornful midwife told the local surgeon he should go back to cutting hair. Today, the precocious amateur depicts the flight instructor as a bellicose platoon sergeant in civilian clothing. The critic is generally a callow youth just learning to fly. For some reason student pilots *like* to pick flaws in their instructors.

Actually, we instructors manage very well, considering the raw material we are given to work with. When one develops eccentricities, it's his environment, not his heredity! The major problem in flight instruction lies in the personality of the student, not the instructor—believe me!

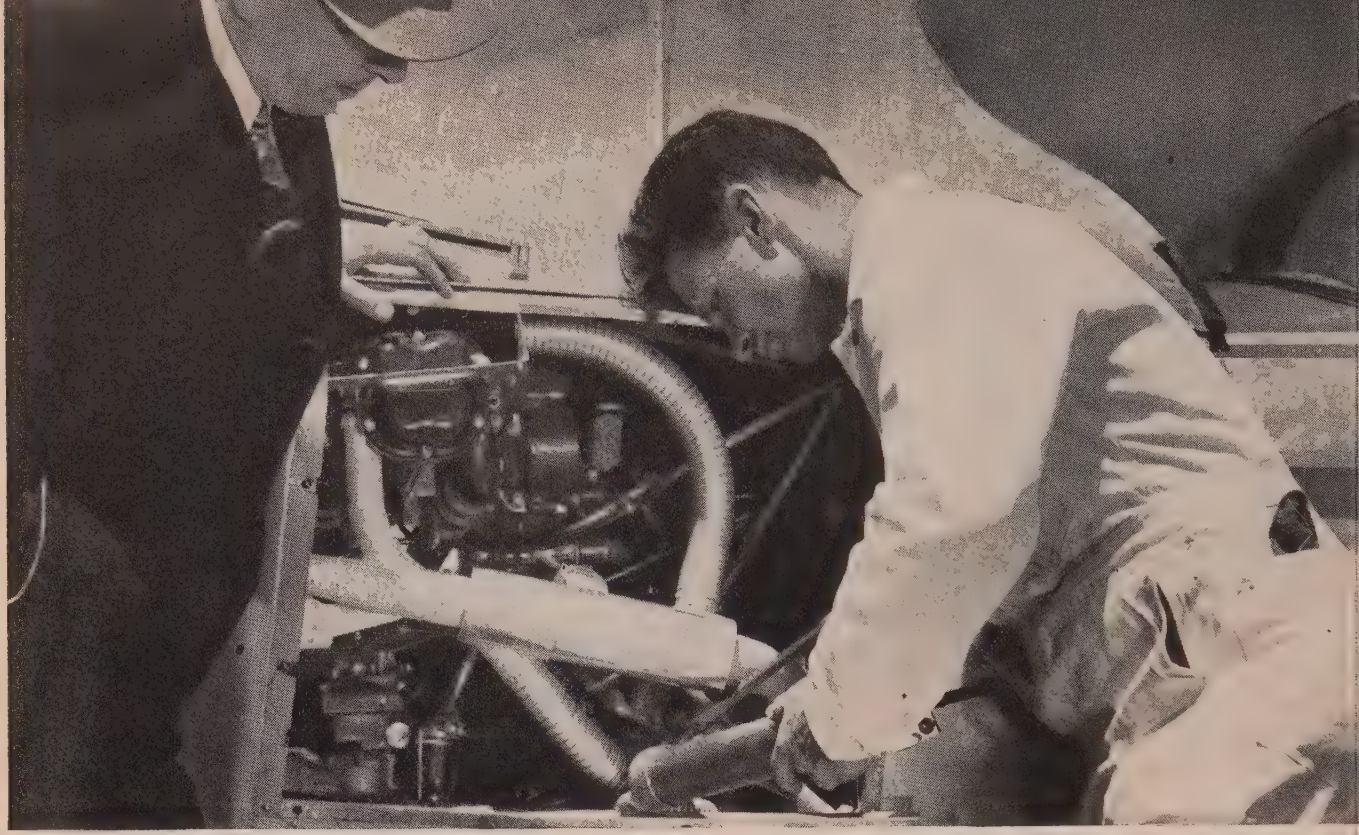
There are all kinds of students. An instructor should have the resourcefulness of Robinson Crusoe, the endurance of Superman and the good nature of Bob Hope, to handle the variety of students he faces in a single day.

Occasionally, an instructor feels like a roué-husband. Everybody feels sorry for the wife who trusts her husband even when she knows that he has just hired a smooth young blonde secretary. For a while perhaps, the hus- (*Continued on page 66*)

DELINQUENT STUDENT is the guy who goes on cross-country, then fails to return on time. Another is the student *(below)* who pays more attention to logbook

By BILL BEARD

As told to Lawrence Farrant



STOP-OVER—If you're going to stay at airport any length of time, have a mech grease tail, nose wheel with zerk gun

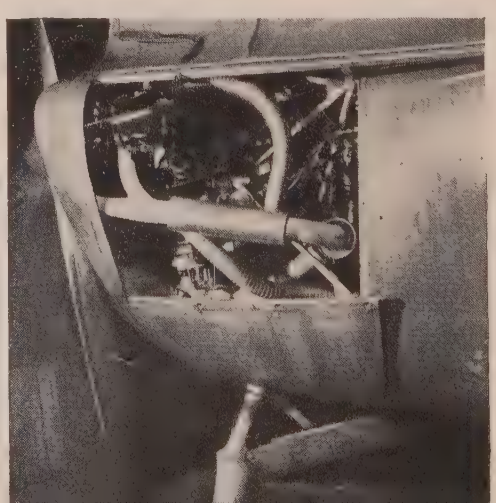
Once Every HUNDRED

Your plane's periodic inspection is preventive maintenance that saves $'s

AIRPLANES get tired, just like people, and the harder they're used the quicker they run down, but unfortunately more than one person is liable to get hurt if an airplane deteriorates to the point of causing an accident. To counteract this possibility, occasionally neglected by careless operators or mechanics, the CAA set up *minimum* requirements embodied in the CAR's calling for the periodic inspection of every airworthy aircraft — once every 12 months for private planes and once every 100 hours of flight time for aircraft used for commercial work and flying schools, including small planes used for charter or for hire. (See Civil Air Regulation's 01 and 43.)

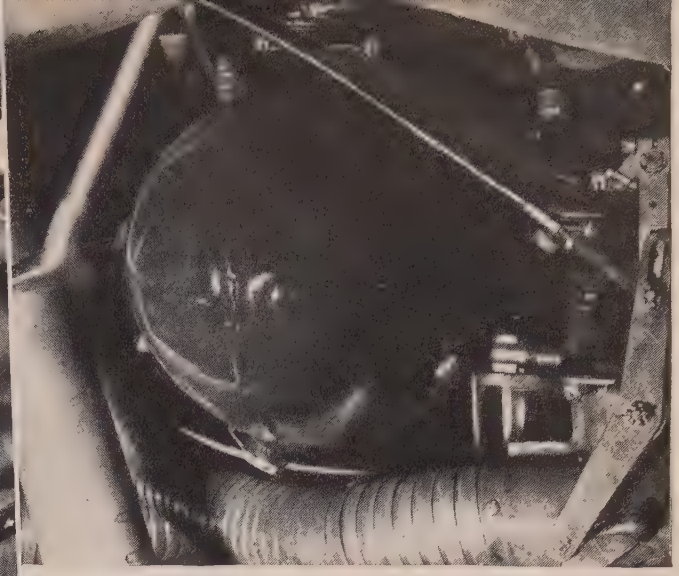
The basic problem is that moving parts wear in any machine, fluids leak or have to be changed regularly to keep their properties, and nuts and bolts loosen; all normal conditions but ones that have to be checked at stated periods. In addition some planes are more intricately engineered than others, although every type has its own peculiar maintenance bugs. Because of this some manufacturers have extra minimum inspection requirements on certain assemblies that may be higher than CAA rules, but these are exceptions.

The amount of ground maintenance an airplane



***ERCOUPE* cowling, hinged back, allows a quick visual inspection of the engine**

By JERRY LEICHTER



OIL TANK photo shows throttle linkage crossing to carburetor. Oil drain plug is at bottom. Be sure this plug is not overzealously tightened

INTAKE-PIPE connections *(left)* sometimes are loosened by engine vibration. Make certain they are retightened from time to time as routine check

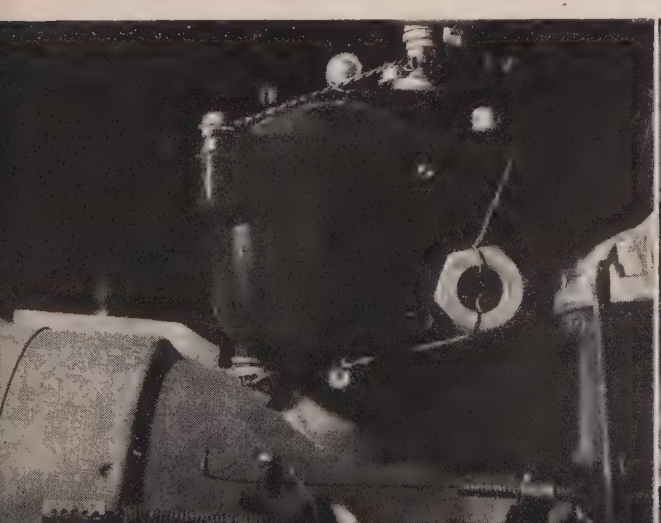
requires can make it an expensive proposition, apart from its sale price. Naturally, as in every business, there probably always will be some chiseler who loads bills when a plane owner isn't watching. But even with the usual honest standards, a year's hangar and maintenance bill can climb fairly high if you aren't careful. The only way to keep it as low as possible is to get the best preventive maintenance possible and that's where the "periodic" comes in.

The man who is always in a hurry and urges mechanics to do faster work, hoping to save on the hourly labor rate, is inviting short-cut maintenance that sometimes resembles his own impatient flying to a high degree, but the man who takes care of himself and his craft in the air and makes sure that only good mechanics handle it on the ground without undue interference from him is apt to show a lower yearly upkeep cost. Sometimes, though, one finds that amazing hybrid, the man who stands for no foolish flying but is highly indignant over what he calls wasted time on the ground. Mister, there's no such thing as "waste time" when your plane is receiving a good inspection.

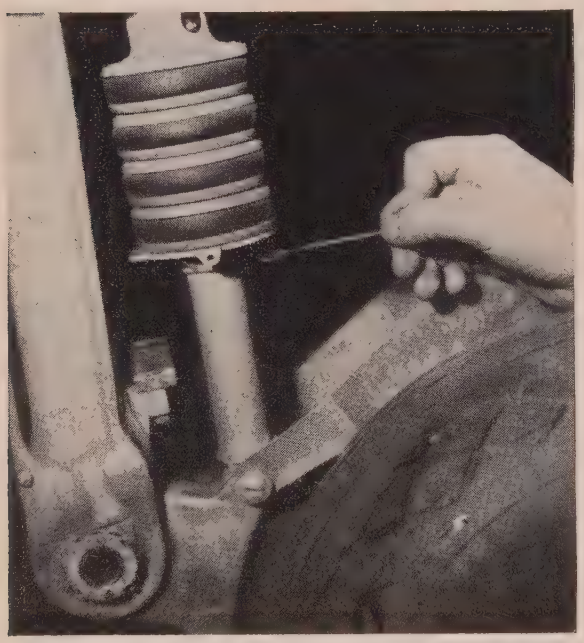
Well, what does a good inspection amount to? Labor time on most small planes can run an average of 10 to 25 hours, depending on the amount of repair work required. It includes a minute check of every bolt, nut and safety, and lubrication of every

CARBURETOR heat gate linkage photo shows spring for return assembly and self-locking nut at bottom center. This loosens up after operation, so have a mech check it

BATTERY BOX on the *Ercoupe* is to right of the control assembly. Its buried positioon under compartment makes routine checking hard, but hard or not, check it



BUSHINGS on any plane's nose wheel usually need replacement after 100 or 125 hours of operation. The *Ercoupe's* new screw-in bushings with protruding flange are easily replaced



FILLING main gear oleo calls for removal of rubber bumper limit stop on arm *(above)*. *Ercoupe* strut is sturdy, giving ship good shock absorbing gear. On ground strut is compressed

moving part that is not factory lubed and sealed. It calls for tolerance checks and replacement of wearing parts, cleaning others and an inspection of the correct movement of everything that is supposed to move on the ground and in the air, wherever necessary. A check of every accessory and extra equipment installed for safety or comfort is included. And finally it calls for a re-check by a CAA Inspector or a Designated Aircraft Maintenance Inspector before a craft is considered airworthy.

To give pilots a better understanding of what the periodic can entail aside from routine work and also to provide mechanics with some working hints, we decided to take a typical plane, one reasonably intricate yet popular, combining enough types of construction to constitute a guinea pig for a spot check of specific troubles that good mechanics have to look for. We nominated the *Ercoupe* because of its increasingly wide use and because it combines an all-metal fuselage and fabric-covered outer wing construction and an oleo-type landing gear.

We went to an *Ercoupe* representative and he suggested that we see Bob Meyer who, with Bob Lynch, runs Skyservice Incorporated out at Staten Island Airport, New York. We were assured that Meyer would make available all the information we wanted with no holds barred and it turned out exactly that way.

Skyservice was started in June, 1945, and in addition to a dealership for Beechcraft and *Ercoupe*, there is a flying school using Piper *Cub* and *Ercoupe* equipment. Skyservice also serves as an export forwarder for *Ercoupe*. Facilities include two storage hangars and a large shop which is also used with a separate outdoor area for the processing and packing of *Ercoupe's* flown in from Maryland facory for overseas shipment. With that kind of set-up we figured that the mechanics there should know as much as anyone outside the *(Continued on page 70)*

RUDDER hinge and pin *(left)* should be carefully checked to make sure they are not worn. The pin used in this photo has not been peend as in regular *Ercoupe* assembly

ERCOUPE, in this case, was used to show plane owners what parts should be watched for wear, etc. This wear-watching applies to *all* planes, not the *Ercoupe* alone

The FLYING SPORTSMAN

A Special Section . . . Sports in Season

Week-End Wing-Ding

To clear away those cobwebs try an aerial weekend via personal plane

By ROBERT E. ELLSWORTH

WITH more personal airplanes pouring off the assembly lines in a single month than were produced in the entire year of 1939, American sportsmen are due for a revolution in their vacation or week-end habits.

The hunter, fisherman or week-ender now can go as many places in a single day as he used to go in an entire week. With travel time and its accompanying fatigue cut almost to the irreducible minimum by the better than 100-mph speeds of modern low-cost planes, the sportsman now arrives at his destination fresh, eager and ready to go.

The word "destination" is passé. Today, you choose a base of operations which puts every hunting stand, fishing ground, golf course and camp site within a 200-mile circle, less than an hour away from your holiday headquarters.

The most versatile airplanes, of course, are the amphibians which can set you down on an isolated mountain lake, or in a woodland clearing with bird-like efficiency. Today's amphibians range in price from $6,000 for the four-passenger *Seabee* to $115,000 for a luxurious *Mallard* air yacht.

With personal-plane manufacturers scheduled to put thousands upon thousands of airplanes in the sky by 1950, my fair mate, Eunice, and I decided we could wait no longer to have a taste of what the flying age has in store for the sportsman flyer.

So when we finally learned that the Safair Flying School at nearby Teterboro, New Jersey, had obtained its first *Seabee*, (*Continued on page 72*)

PENNSYLVANIA-BOUND for a flying sportsman's week-end, the Ellsworths loaded golf clubs, fishing tackle, etc., aboard the Seabee, then took off for the Poconos

SEABEE SLEEPING was solid comfort . . . 'til the author decided to awaken his wife with a fish he'd caught in a nearby brook. For over-night stop, they landed in field

CANADA IN A CUB

If you want adventure and an air jaunt, too, do as these boys did . . . fly to the Arctic Circle

a Flying Sportsman Feature

By JOHN L. JENNINGS

REFUELING a *Cub* in the middle of a choppy lake was no cinch, but the limited range of the plane made it necessary. One of our stops was at Minaki Lodge, Ontario

I DON'T suppose there's a pilot in the world who hasn't spent hours on a socked-in day thinking about an air trip to some distant place. It was on just such a bad-weather day last summer that I dragged out an old Atlas, opened it and then asked Rod Merrick, a buddy of mine, if he'd ever thought about making a trip up to northern Canada.

At that time Rod hadn't done much flying and wasn't even very interested in it, but he did like to travel around, and my question presented possibilities. His groan of approval set up a chain of action that made the Jennings household look like an atomic holocaust and ended up in a trip to the edge of the Arctic Circle in my Piper J-3. Don't let anyone tell you that a *Cub* is no plane to make

The whole business weighed just about 80 pounds.

We'd each bought a sleeping bag and rifle, but the combination weighed too much and so had to be left at home. Fortunately we didn't miss it.

After getting all that stuff together, I wired Washington for 25 different World Aeronautical Charts (scaled 16 miles to the inch). These maps covered the territory that extended from the Arctic Circle to Cleveland . . . and weighed up at two pounds. After Rod and I had spent some time looking them over, we decided the J-3 would have to get off her wheels and on a set of floats. Luck sat on our shoulders here 'cause I located just the floats we wanted and a week later the J-3 was in the water at the Cleveland Seaplane Base.

The day Rod and I left was just like every other day I'd ever planned an (*Continued on page 74*)

CHANGE OF PACE in a day's flying called for a stop to do some fishing. Rod and I landed on Deshambault Lake, tossed in our lines, caught a couple of wall-eyed pike

ENGINE TROUBLE hit us at McMurray (*right*). A set of gaskets was air expressed from Edmonton and arrived next day. We left then for Yellowstone knife (*above*)

a lengthy air jaunt in . . . it's very definitely okay!

First off, Rod and I scoured the stores of Cleveland and raided the family attic and cellar for the equipment we'd decided was needed. Three store-clerk breakdowns and two family fusses later, we laid out all the equipment, weighed each item and then listed as "taking" the things that weighed the least. We ended up with: one 15-pound box Army C rations, biscuits and coffee; fishing rod, tackle and net; mosquito dope, small tarpaulin; three tins for carrying extra gas; a funnel and chamois; extra-heavy clothing; carton of waterproof matches; two spark plugs, wrenches and a couple of other tools; an assortment of wire, bolts and nuts; compass, ax, paddle, ropes, binoculars, camera and First Aid kit.

FLY TO FISH

A Flying Sportsman Feature

By RICHARD F. BURNS

BEFORE the war, "Fran" Marsh and I had gone on many an ice fishing trip by air. And now that a peaceful winter had rolled around and we were both out of Uncle Sam's uniforms, we were as anxious as new fathers to get back into the old routine. It was that same anxiety that for weeks had us out near the lakes almost daily trying to coax water into becoming ice. 'Long about late November our efforts were rewarded—Lake St. Clair had about 10 inches of the good ole solid white stuff. But . . . the flying weather was bad. So for another several days Fran and I spent our spare time reading the local fishing laws, studying charts and making arrangements with a friend to borrow his Aeronca when the great day arrived. In return for the use of his plane we promised him a mess of fish.

Finally, just the day we'd been waiting for came along. The sun shone brightly and there was hardly a cloud in the sky. I telephoned Fran and then hurried through breakfast. Just about the time I'd gulped the last drop of coffee, Fran drove up in Betsy (his old Ford) and we were on our way to the airport, our gear all packed and ready to put aboard (*Continued on page 95*)

FIRST TASK on landing was to set up the coffee pot—almost always an ice-fisherman's "first." Fran *(right)* hauls out the first catch—a pound pickerel hooked on tip-up. Boys spot ice shanties *(far right)* from the plane

ALASKA IS READY FOR FLYING FISHERMEN

SILVAIRE GOES TUNA HUNTING

SEA-GOING *Silvaire* is lifted to deck of ship for voyage to tuna grounds at sea

Believed to be the first plane to form a part of a fishing fleet is the Luscombe *Silvaire* carried on the "Liberator," commercial fishing boat owned by George and Joseph Soares of San Diego, California.

The float-equipped plane is used to locate schools of tuna at sea, and is raised from and lowered to the water by means of a boom. George McKusick, who pilots the fish-hunting plane, was formerly a Marine Corps pilot and test pilot for Pratt & Whitney and Consolidated Aircraft.—*OPL by Wrenn.*

Dobbin Takes to the International Airways

Add to the list of animal, vegetable and mineral which travels by air the racehorse. A couple of months ago a vanguard of six racers pioneered the Atlantic crossing, en route to California, arriving here from Shannon in 18 hours. The actual crossing is not the only time element to be considered, it seems; since horses apparently do not grow airsick, they are ready for racing within a couple of weeks after an air trip, whereas an ocean crossing leaves them incapacitated for two months or more.

The effect this will have on the international racing picture is yet to be seen, but it is expected to enlarge considerably the scope of competition. The British tongue-in-cheek conception of American procedures and practices may be seen in the following statement, taken from *The Aeroplane* of December 13, 1946. Speaking of the ability of the horses to weather an air trip in good health, that weekly says, "*We would not have been at all surprised, knowing something about the American advertising system, to have discovered that the flinging wide of the aircraft loading doors after landing was, in fact, the signal to start some frightfully important race. The horses would then have galloped down the unloading ramp, saddled and jockeyed, and raced down the course to the cheers of the spectators.*"

Monocular is added to Sportman's list of gear

Another wartime development which is proving a boon to the flying sportsman is the "Sportscope," a 9x50 monocular used by sportsmen in place of the usual all-purpose field glass. The streamlined Sportscope's simplified one-finger operation makes it particularly attractive to flying sportsmen. And it's light weight—19 ounces—and compact size label it definitely airworthy.

The Sportscope, developed on an army airfield a little over a year ago by Captain Ed Haber, produces images claimed to be larger and brighter than binoculars.

NEW PROTECTION FOR LEATHER

Just one season of duck hunting, skiing, fishing, or just plain flying with the various attendant weather conditions, will ruin the appearance if not the durability of the finest leather jacket, camera case, or what-have-you. It will, that is, unless proper precautionary measures are taken. In the case of all leathers, such precautions include a good leather cream, used plentifully and often.

The new product "Bar F Leather Cream" fills the need for a good leather cream admirably. A heavy creamy liquid, it is made up of many animal oils scientifically prepared and blended so as to avoid separation. This is effective in eliminating uneven distribution of the oils on the leather.

No lures needed in these pristine Alaskan lakes

If someone told you of a little lake a day's journey away, where 30-inch rainbows strike viciously at a bare hook, chances are you'd either pack everything and leave immediately, or send for the nearest alienist.

The first course is advised in this case, for the story is as true as any fisherman's gospel. The lake in question once was so far away that only a privileged few could spare the time and money to wet a line. Now, thanks to air travel, it is within easy reach of any disciple of Izaak Walton who has a spark of adventure in his blood—and what real fisherman hasn't?

To avoid a repetition of the gold rush days, suffice it to say that this fisherman's paradise is in Alaska. Narrowing the field down by naming names would be unfair both to the fish and to the sportsmen who keep the lake's identity a closely-guarded secret. Chances are that someone like Ben Edwards, Anchorage's sporting goods expert, or Marshall Hoppin of Alaska Airlines will let you in on the deal if they like the color of your eyes and the cast of your rod.

I tried the lake with Ben recently. Our accomplishments in a half-hour of effortless fishing top the tallest story ever told in any fishing camp, from Eastern tidewater to cascading Rocky Mountain freshets. For in that brief period of time, we hauled aboard a half-dozen savage rainbows, the largest 31½ inches long. And without lures!

You can't drive to this lake. You can walk it, but it would take about a week. The only way you can get there with any degree of speed and comfort is to fly. Alaska Airlines, then Ben's float-equipped *Cub* served both as transportation and fishing dory for our expedition. We took along the usual assortment of gear, just in case Ben's tales of these voracious denizens of the mountain pool should prove a bit far-fetched. But the lures stayed in the box.

Those fish are afraid of no mortal man. They haven't seen enough human beings to have learned respect for hook and line. They're hungry. They'll take a swipe at anything, and the shining bare hooks prove too great a temptation for their trusting minds. But what a battle those rainbows put up!

Ben's little lake is just one of literally hundreds that dot the rugged Alaskan countryside. All are teeming with these giant rainbows and salmon trout. Some streams, too, offer steelhead fishing that's really out of this world. Elsewhere salmon abound, often in such schools that the natives take them with snag hooks on a single cast.

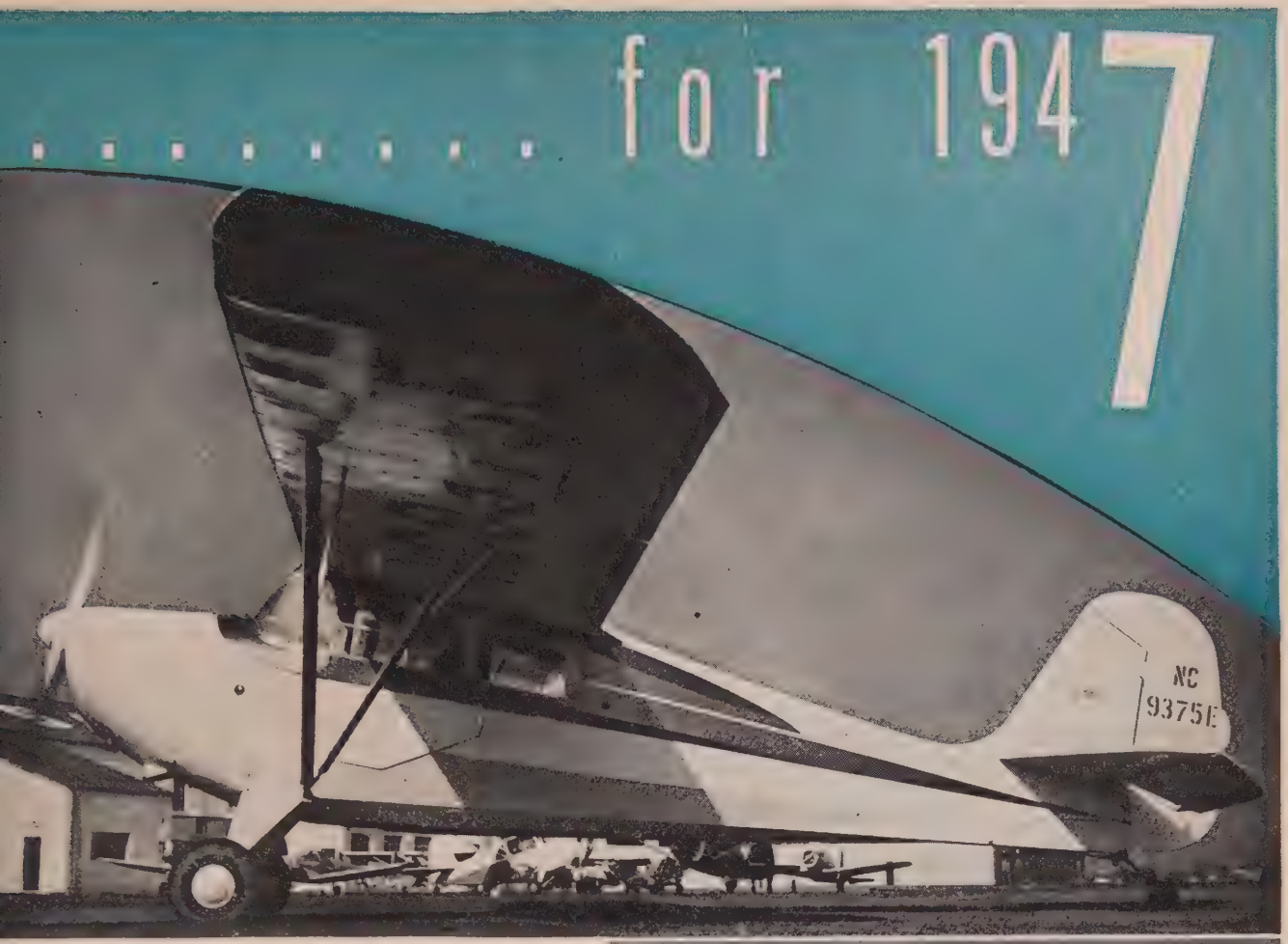
Before the airplane came, Alaska was a week or so away from the states, by boat. Now Anchorage is an overnight hop from Chicago or Seattle, and floatplanes are ready and waiting for the fisherman. Alaska is getting ready for the sportsman, with hunting lodges, guides and its air transportation. And it's a sure bet that the sportsman is ready for Alaska, too!—*Jeff Lyon.*

PERSONAL PLANES

AERONCA: Champion,

CHAMPION For several years Aeronca has been a leader in the field of lightplane trainers. The *Champion* is one of the best of Aeronca's long line. A tandem ship, the two-place trainer is powered by 65-hp Continental, cruises at 90 mph. With a full load, it has a baggage capacity of 40 pounds. The *Champion* is CAA-approved for floats and skis. Because of the plane's sturdiness, its short take-off run and easy handling, it is used by many farmers and ranchers for quick checking of farm lands, cattle, etc., and for hurried trips to town for equipment parts, etc. Not a few sportsmen use *Champions* on floats to fly them to inland waterways for fishing, hunting. The *Champion* today sells for $2475. A radio receiver calls for $70 more.

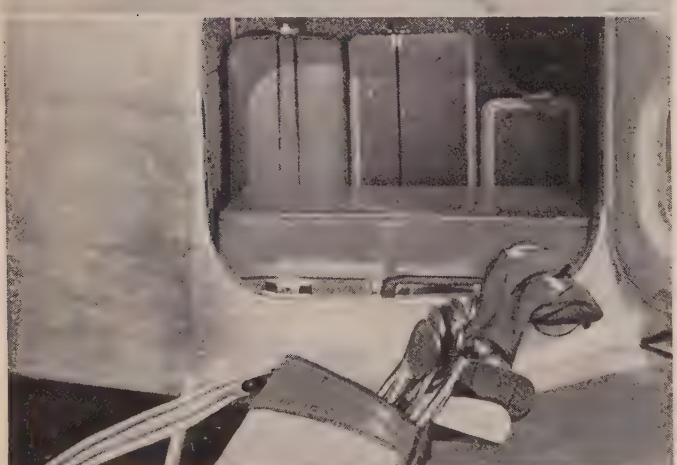
. . . . . for 1947



Chief, Chum

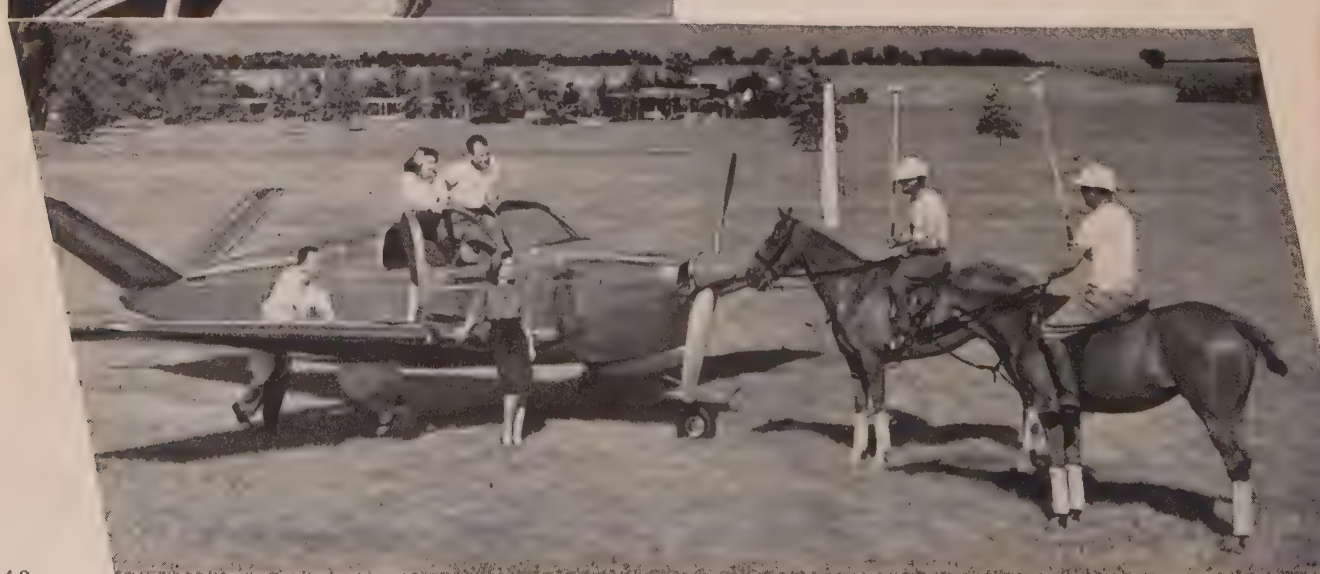
CHIEF The two-place *Chief* is Aeronca's side-by-side model for the personal pilot. Like the *Champion*, it is powered by 65-hp Continental, cruises at 90 mph. The *Chief*, however, has baggage capacity of 70 pounds and a range of about 420 miles. CAA-approved for floats or skis, it is popular with seaplane enthusiasts and sportsmen pilots. Its short take-off run makes it favored airplane by farmer pilots, too. Sells for $2665.

CHUM Newest on the Aeronca line is the two-place spin-proof *Chum*, an all-metal airplane of simplified-control design. Powered by 85-hp Continental, it cruises at 108 mph, has 400-mile range. The cabin is soundproofed, well ventilated, upholstered. No price reported.

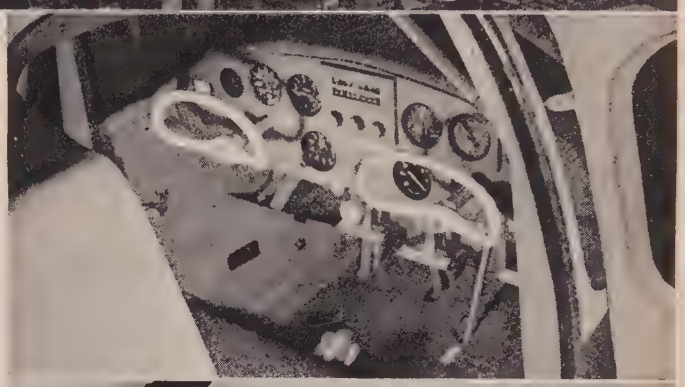


BEECH

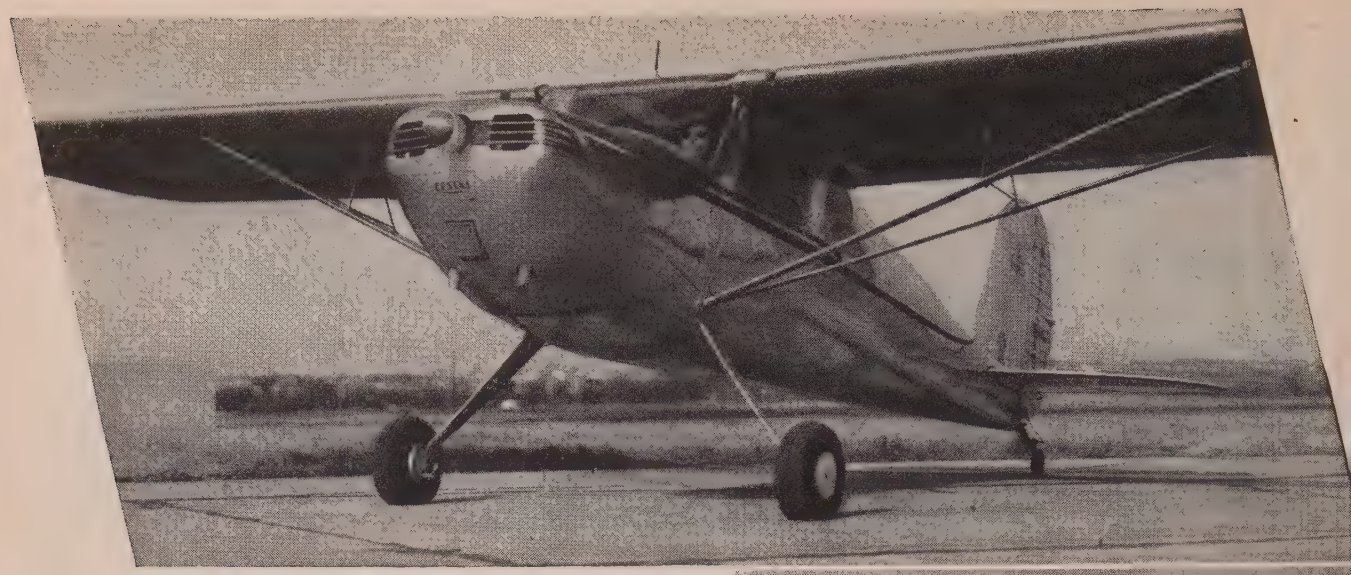
BONANZA The four-place, all-metal *Bonanza,* powered by 165-hp Continental, offers its owners high performance and utility. It has cruising speed of 175 mph, range of 750 miles (with normal load—four people of 170 pounds each, plus 100 pounds of baggage and full fuel tanks). Standard equipment consists of two-way radio and engine and flight instruments long considered all-weather extras. Gyro instruments are extras. Estimated operating cost of the *Bonanza,* on basis of 600 hours per year and including fuel cost, depreciation, maintenance (including hangaring) and insurance, is .013 cents per passenger mile. Ship sells for $7,345.



BELLANCA

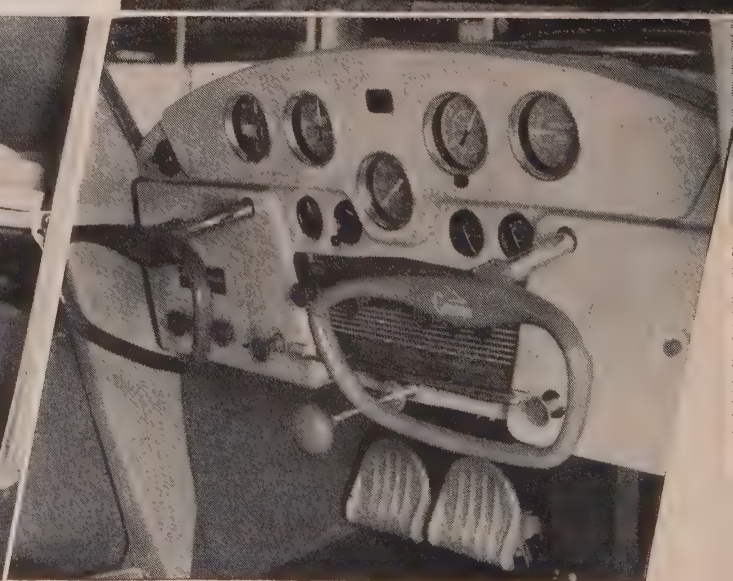


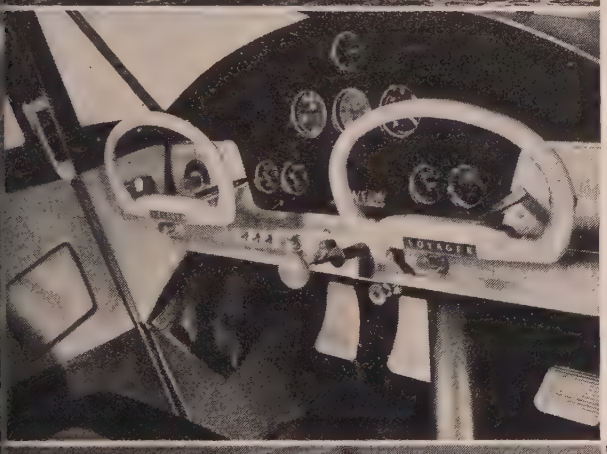
CRUISAIR SENIOR Another four-place personal plane, the *Cruisair Senior* is available in five models (A, B, C, D and E), only difference being in instrumentation of the plane. Powered by 150-hp Franklin, the plane cruises at 150 mph, has range of 650 miles, a 60-pound baggage allowance. Standard instrument panel does not include two-way GE radio (available for $281.50 extra). Purchasers of the *Cruisair* include a furniture company, for salesmen's travel between store and factory; orchestra leader, for on-tour travel between cities; charter operators, etc. Mid-1947 models of the *Cruisair Senior* may incorporate some change in the tail design. Sells for $5,950.



CESSNA

CESSNA 140 This year's model of the 140 features an improved ventilation system, muffled exhaust, a streamlined cowling and a refined interior that includes automobile-type cabin appointments and an automobile-type finish, inside and out. These improvements, in addition to the Cessna landing gear, 80-pound luggage capacity, etc., insures the ship's continued popularity. Seaplane and ski enthusiasts will be glad to know the 140 has been CAA-approved for floats and skis. Conveniently located baggage compartment makes Cessna a good plane for flying businessman or sportsman pilot. Powered by 85-hp Continental, 140 cruises at 110 mph, has 450-mile range. The 140 sells for $3245; the 120 (same as 140 except has no starter, generator, flaps and a less luxurious interior) for $2695. A newer Cessna, the four- or five-place 190 or 195 is due to appear on the market soon.

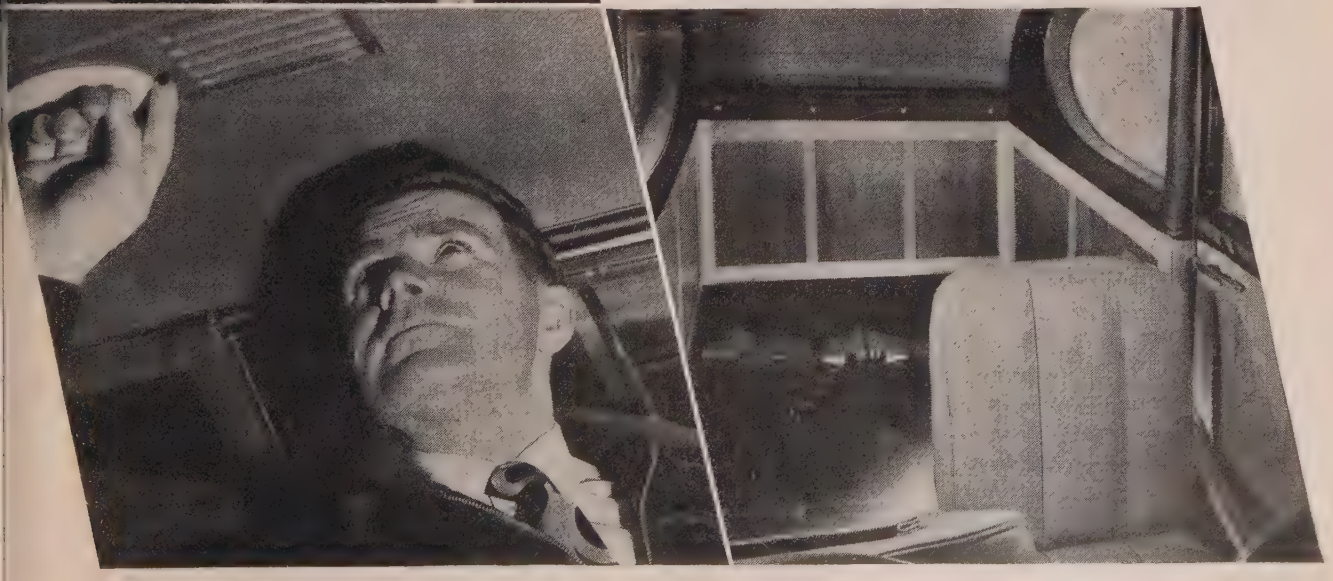


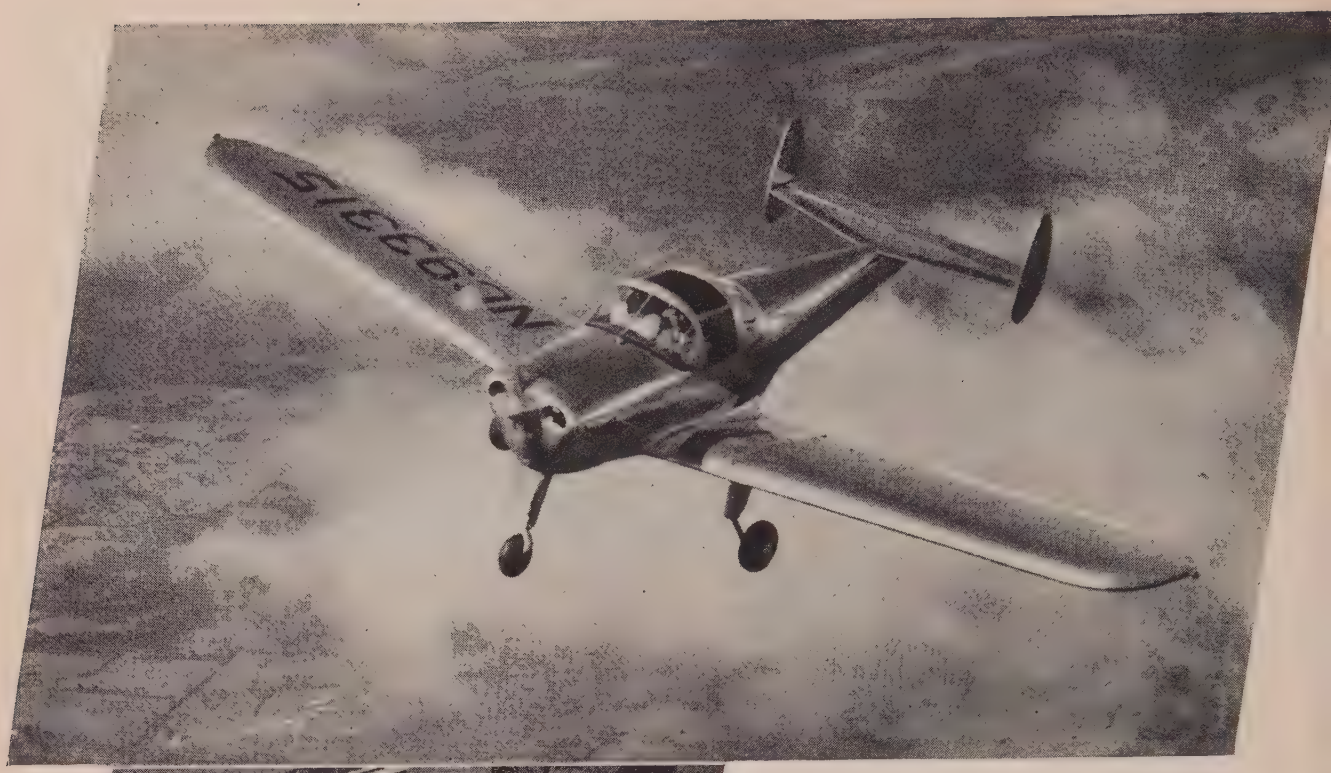


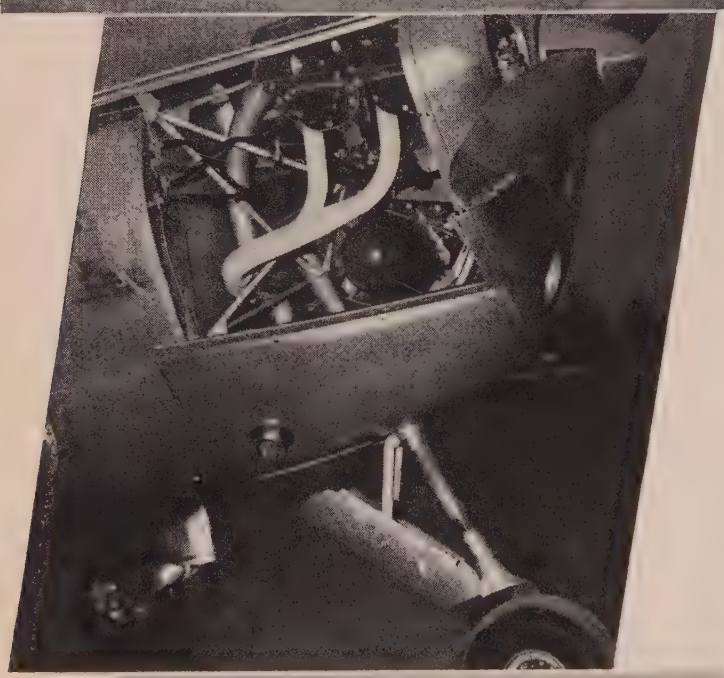
CONSOLIDATED

STINSON VOYAGER According to pilots and plane owners, one of the best planes in the skies today is the *Voyager*, both performance-wise and utility-wise. The '47 model features a roomy, soundproofed cabin designed by well-known Henry Dreyfuss. A four-place plane, the *Voyager*, fully loaded, can carry 100 pounds of baggage. It is powered by 150-hp Franklin, cruises at 125 mph. Two-way radio, fixed homing loop is standard equipment, has 500-mile range. Present price is $5645 (faf).

STINSON STATION WAGON Ranchers and farmers will welcome the *Flying Station Wagon*. Basically the same ship as the *Voyager*, the *Station Wagon* carries two instead of four, but has cargo capacity of 600 pounds in 24 cubic-foot space. Tie-downs permit loading to window level. It is equipped with two-way radio. Sells for $5745 (faf).

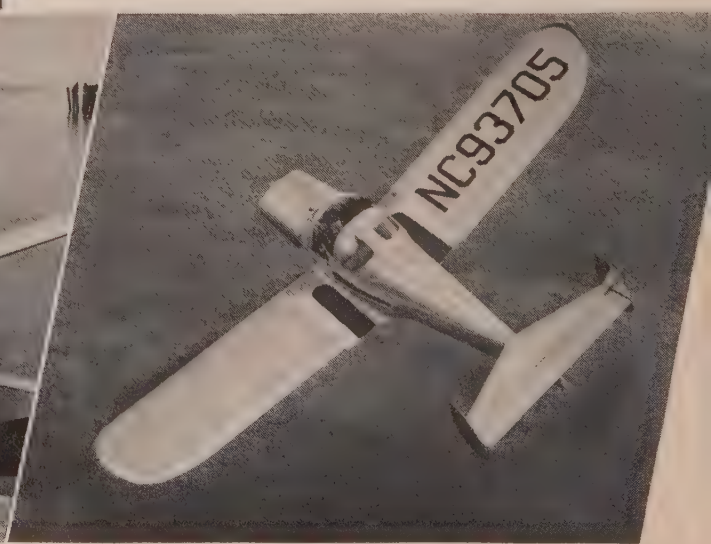






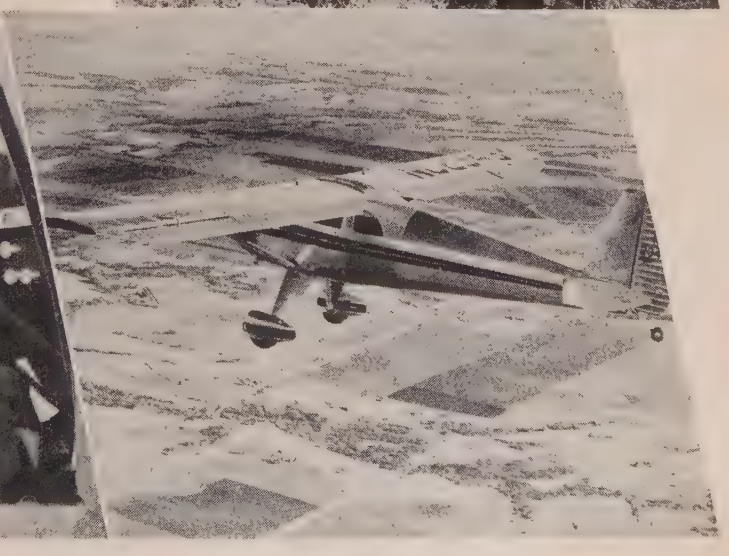
ERCO

ERCOUPE The spin-proof, two-place *Ercoupe* has been one of the planes that has attracted a large group of newcomers into the field of aviation. Many a businessman who never gave much thought to flying his own plane has become an expert pilot and a real enthusiast since his introduction via the *Ercoupe*. Its simplified control system makes it easy to learn to fly. Powered by 85-hp Continental, it cruises at 112 mph, has 500-mile range, and carries 65 pounds of luggage. It sells for $3450.



LUSCOMBE

SILVAIRE The new all-metal two-place *Silvaire*, powered by 85-hp Continental, has the interior styling and trim exterior design to make it one of the most popular with young business executives and sportsman pilots. It cruises at 112 mph, has a range of about 508 miles and carries 75 pounds of luggage. It burns about 7 gallons of fuel per hour, making it inexpensive to operate on a cross-country basis. It has been CAA-approved for float and ski operations. It presently sells for $3595.



PIPER . . . . . Cub

CUB For years the name *"Cub"* has practically been the password of aviation. Primarily a trainer, the *Cub* is a tandem two-seater powered by 65-hp Continental or Lycoming. It cruises at 73 mph, has range of 206 miles. Farmers and ranchers throughout the Middle and Southwest use *Cubs* to check their property, cattle, and to dust crops and fruit trees. It is CAA-approved for float operations as well as skis. Cost of a *Cub* is $2295. New *Cub*, PA-11, is due to appear soon.

SUPER CRUISER The three-place plane of the Piper family is the 100-hp *Super Cruiser*. It is an inexpensive family plane also used by many farmers and ranchers as well

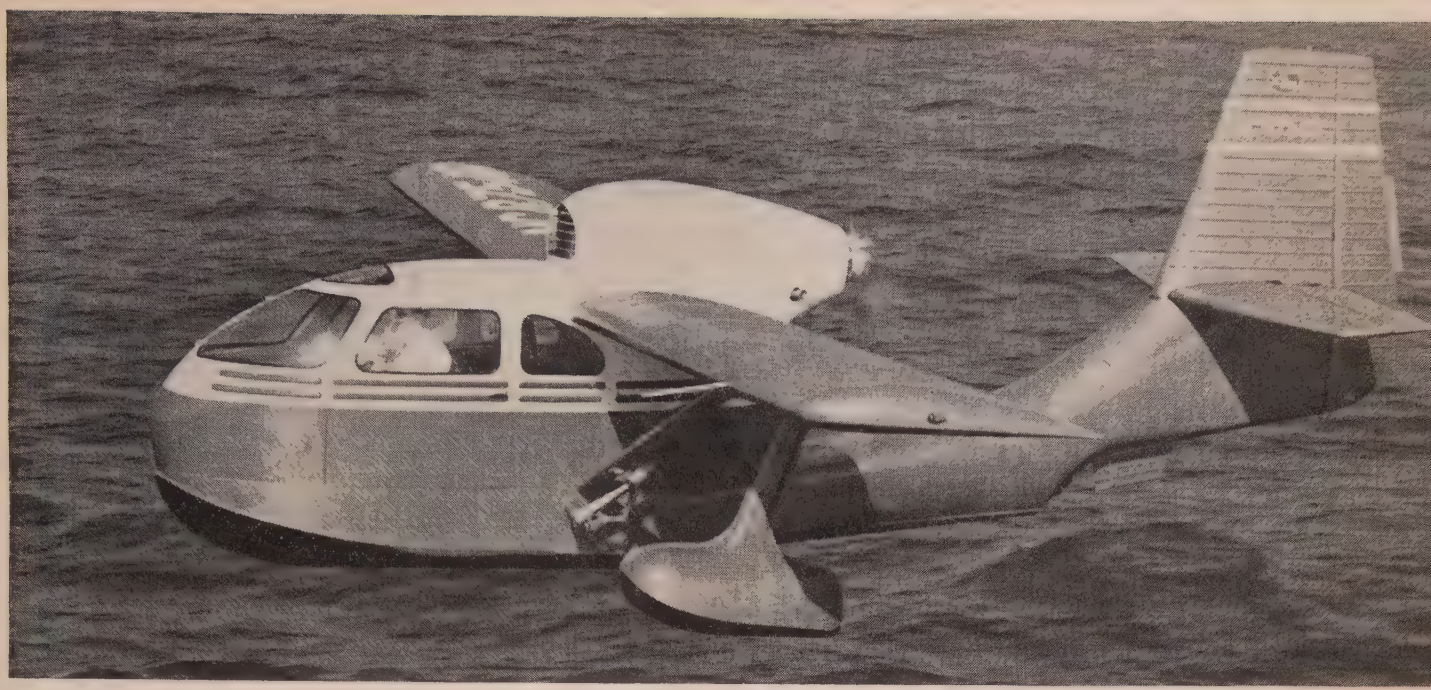
Super Cruiser, Sky Sedan

as businessmen. It cruises at 103 mph, carries 41 pounds of baggage, and has a range of about 650 miles. Additional instruments can be added to the *Super Cruiser's* panel to make it useful for night operations or all-weather flying. The *Super Cruiser* sells for $3295.

SKYSEDAN Newest of the Piper's is the all-metal, four-place *Skysedan* powered by 185-hp engine. Unlike the rest of the Piper planes, this one is a low-wing aircraft. According to pilot reports, the *Skysedan* is one of the nicest handling airplanes ever built. It cruises at 140 or 165 mph, has a range of about 750 miles and a baggage capacity of 100 pounds. Cost of the ship will be under $5000.

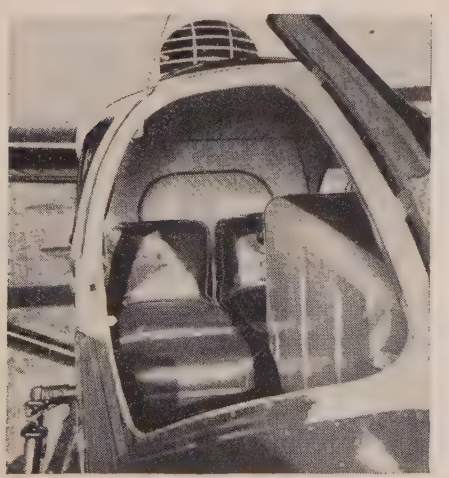
NORTH AMERICAN

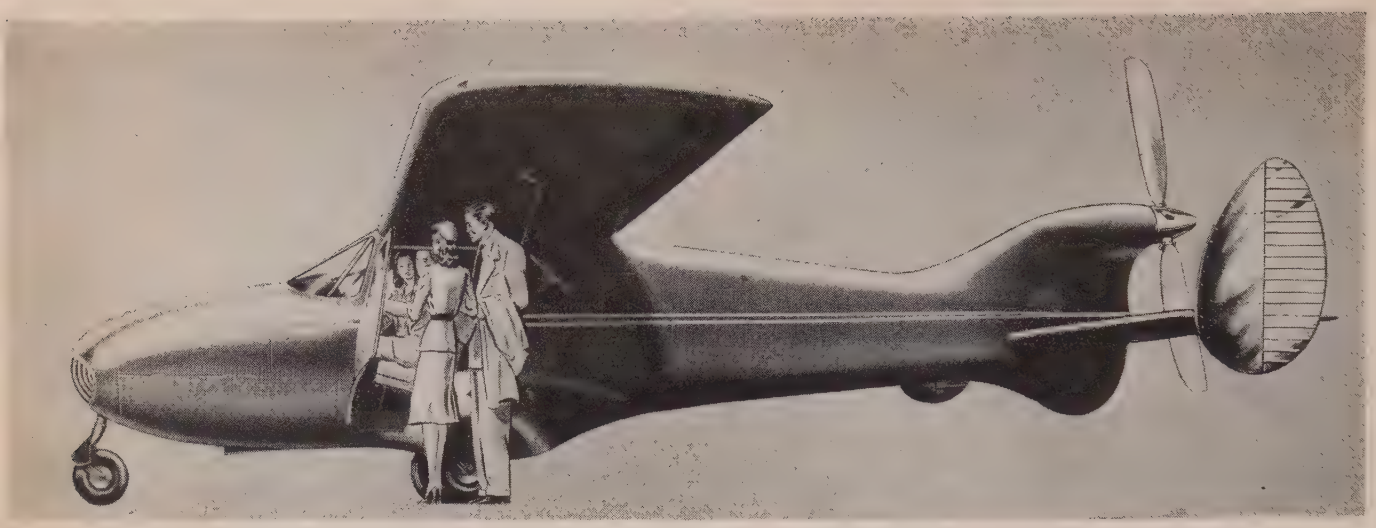
NAVION In the family-plane class, the North American *Navion,* with its 180-pound baggage capacity, four people and 40 gallons of gas, offers that "extra" in utility which makes the ship a favorite of the flying sportsman and the pilot-businessman. Many an owner has used his *Navion* on fishing or hunting trips, or for cross-country business trips. Powered by 185-hp Continental, the *Navion* cruises at 150 mph, has a range of over 500 miles. Because of the plane's short landing and take-off run, one farmer uses his *Navion* to check up on the harvesting done on his own farm. Price of the *Navion* is listed at $7,750 with such extras as radio, instrument-flying panel and landing lights. Add another $975 for a complete gyro panel for all-weather flying.



REPUBLIC

SEABEE With utility a prime requisite in choosing an airplane, no one can deny the advantages an amphibian has over landplanes or seaplanes. The four-place *Seabee*, at this time the only personal-plane amphibian in production, is enjoying great popularity, particularly among fishermen and duck hunters who like to fly to their favorite hunting or fishing spots. Powered by 215-hp Franklin, the *Seabee* cruises at 103 mph, has a range of 560 miles on 75 gallons of gas with pilot and one passenger and 240 pounds of baggage, or over 300 miles with pilot, three passengers, plus 80 pounds of baggage. A two-way Hallicrafters radio is standard equipment as is a controllable-pitch propeller, turn-and-bank, etc. The present price is $6,000.



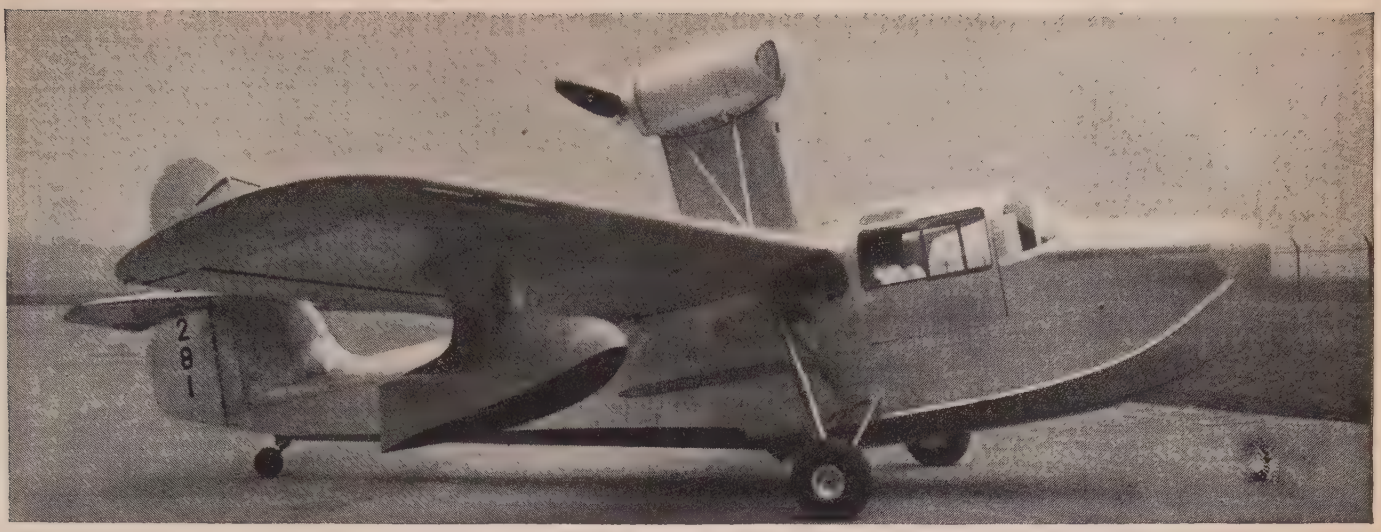


WACO

ARISTOCRAFT This is the plane *(above)* in four-place class that uses the simplified coordinated-control, non-spin installation. It is powered by 215-hp Franklin engine driving a pusher prop in the tail. It cruises at 152 mph, has range of over 600 miles. Its tricycle gear, with steerable front wheel, is retractable. Standard equipment on *Aristocraft* includes starter, radio, turn-bank, etc. Costs $9980.

FAIRCHILD

F-47 Not too much is known at this time about the new Fairchild *(below)*. Details will be announced in a few weeks, however. It is a four-place plane, employing a retractable tricycle landing gear. According to the design and construction information, F-47 will boast automobile-type construction, and the luxuriously appointed cabin will not be unlike the interior design of today's more expensive motor cars.

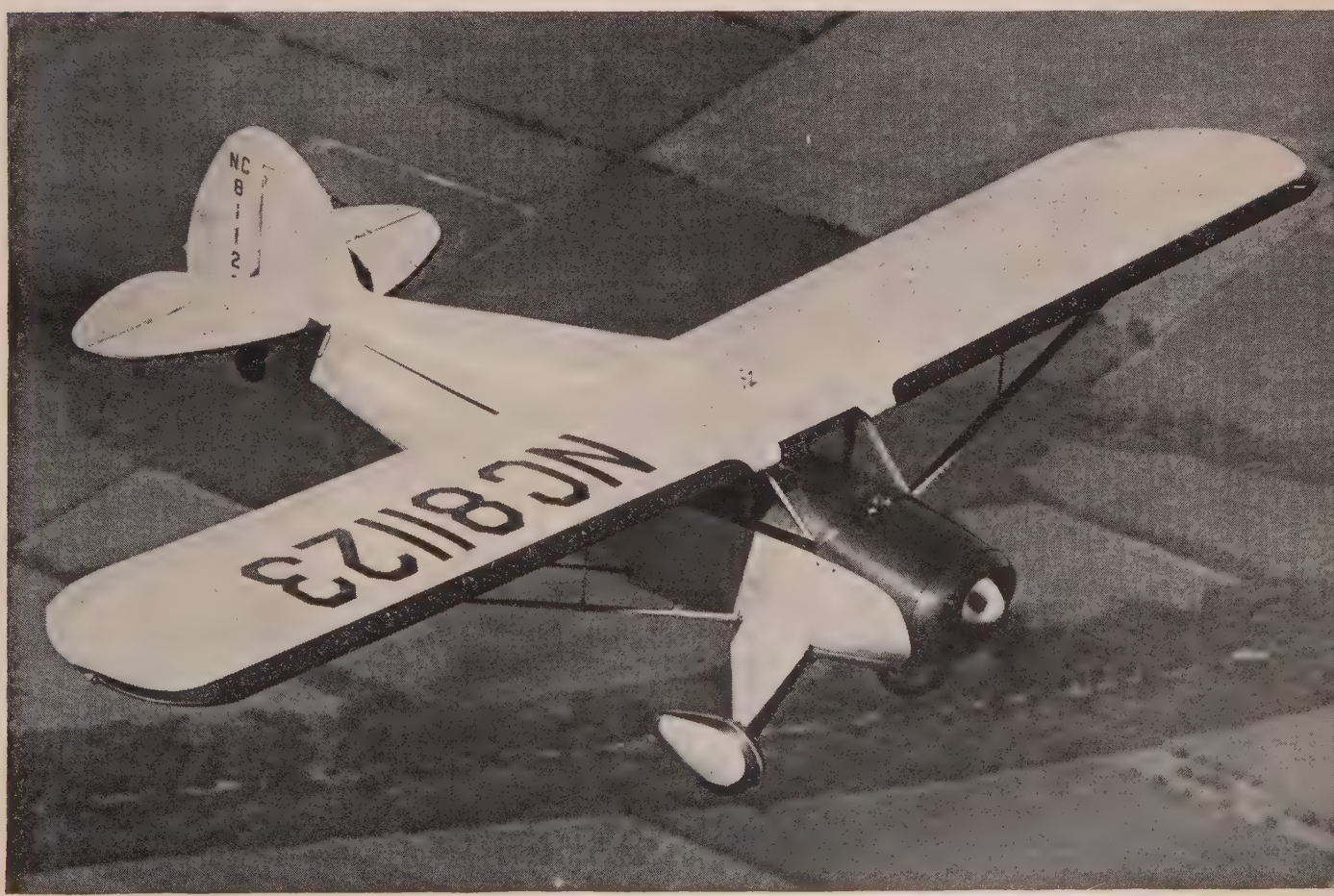


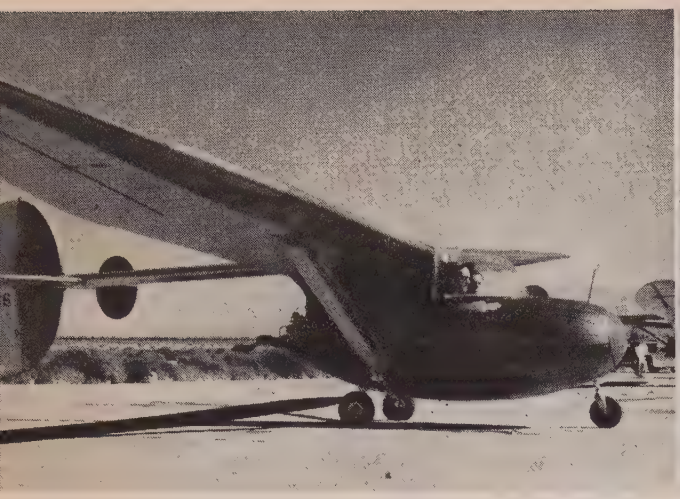
GOODYEAR

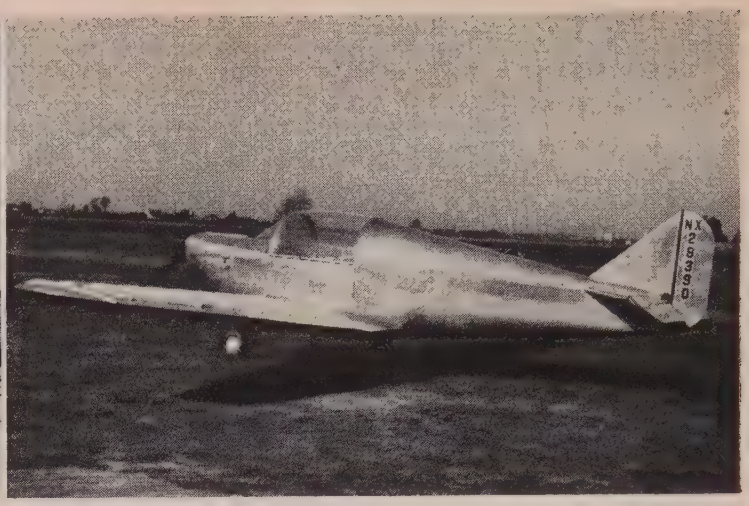
DUCK Here is an exceptionally good airplane, built by Goodyear *(above)*, that to date has not been announced for sale. An amphibian, it is powered by 145-hp engine giving it cruising speed of 108 mph, range of about 400 miles. It will carry three people, plus 45 pounds of baggage. Visibility is excellent, cabin is roomy and the instrument panel well laid out. It was built to sell for under $5000.

FUNK

B85C High-wing Funk *(below)* is a popular plane in the Middle and South West. Powered by 85-hp Continental engine, the Funk cruises at 100 mph, has range of 350 miles and carries 50 pounds of baggage. Ease of handling has made this two-place side-by-side ship a favorite for training purposes as well as cross-country work. In addition to radio and lights, wheel pants are standard. Costs $3990.







NELSON

DRAGONFLY This two-seater is not a personal plane but is an auxiliary powered glider. Employing its own 25-hp 2 cycle engine, the *Dragonfly* does not depend on tow cars or planes to take it to soaring altitude. And once at that altitude, via its own power, the engine can be cut off, then started again at will. It cruises at 65 mph, has stalling speed of 38 mph, a glide ration of 18 to 1. It has dual controls and retractable gear. Sells for about $3,000.

EMIGH

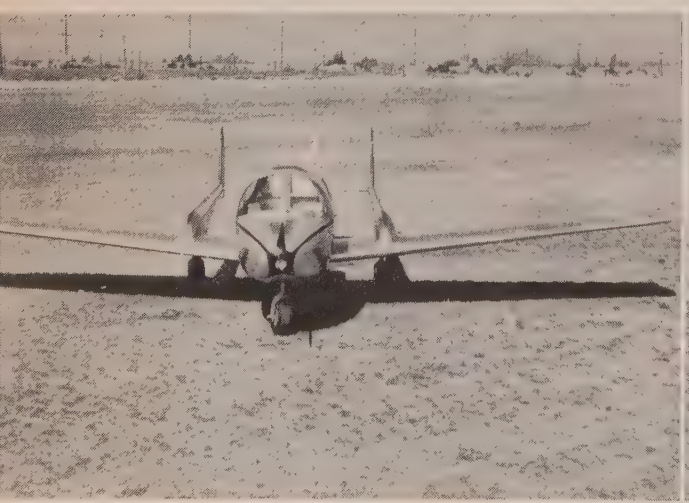
TROJAN In the field of NX ships, the Emigh *Trojan* is one of the most recent. This two-placer is powered by 85-hp Continental, is expected to cruise at about 100 mph. Outstanding feature is the full-span ailerons which also serve as flaps. Adjustable from cockpit while in flight, these ailerons can be used to increase lift. Model A has fixed gear while a second model will have retractable gear, folding wings for easy "garage" storage. No price given.

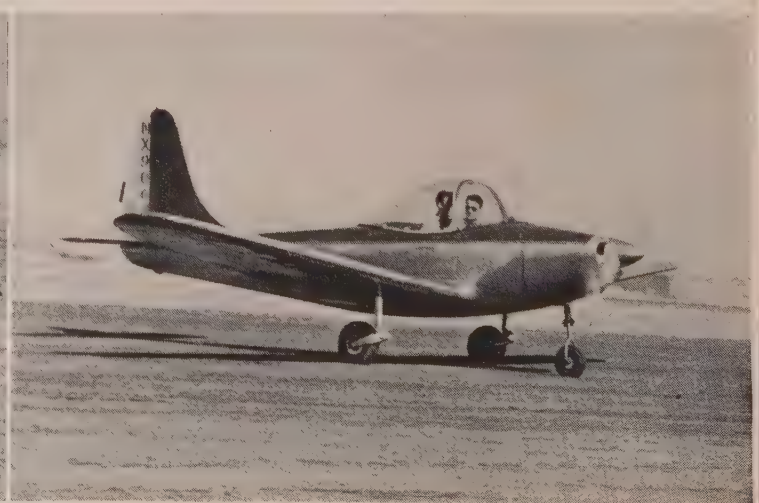
SKYCRAFT, Inc.

SKYCRAFT Another experimental personal plane is the four or five-passenger *Skycraft* under development on the West Coast. Powered by 190-hp Lycoming, it is expected to cruise at 142 mph. It will carry 100 pounds of baggage. Standard equipment includes turn-and-bank, rate-of-climb, sensitive altimeter, clock, two-way radio as well as position, wing and tail, and navigation lights. Its gear is retractable. *Skycraft* will sell for about $6,700.

ALL AMERICAN

ENSIGN The newest *Ensign* (the still experimental Model 10A) is a low-wing, spin-resistant two-seater offering exceptional visibility via its bubble-type canopy. Powered by 85-hp Continental, *Ensign* cruises at 115 mph, carries 50 pounds of luggage, has range of about 500 miles. Once NC'd the *Ensign* will be a good ship for the salesman whose territory requires small-field operations. This because the ship's take-off run is only 300 feet. It sells for $3,495.





HOCKADAY

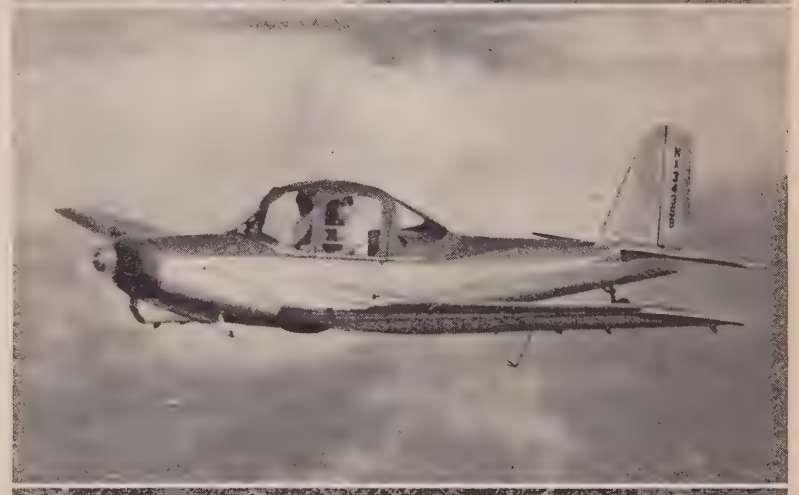
COMET Another West Coast product, the *Comet* is a two-place side-by-side plane that boasts ease of handling and economy of operation. Powered by 130-hp Franklin, it cruises at 125 mph, has range of 500 miles, carries 100 pounds of luggage. "Overload" type of landing gear makes the *Comet* a good plane for rough-field operations. The ship also is available with other engine installations. Starter and generator are classified as standard equipment.

CALL

CALLAIR Mountain flying is a specialized business, and the *Callair* A-2 is a specialized plane designed for mountain flying. Powered by 125-hp Lycoming, the *Callair* cruises at 109 mph on 75 per cent of power. On take-off from field 6,234 feet above sea-level, the ship uses less than 1,000 feet, can climb to 14,000-foot altitude in 14 minutes. Cabin of the ship is roomy, seats two six-footers with ease. There is large luggage compartment behind seats.

MEYERS

MAC 125-C The 1947 model Meyers offers better visibility than previous models. It is still in the experimental stage. Powered by 125-hp engine, the MAC has cruising speed of about 120 mph, a range of 500 miles and a baggage capacity of 50 pounds. A side-by-side two-place plane, it features a retractable landing gear, hydraulic brakes, and wing flaps. No production plans have been announced as yet, nor have any figures been given as to plane's price.



VOLMER

VJ-21 Formerly the Jarvis, the VJ-21 recently completed its flight tests. It is an all-metal, three-place airplane powered by 75-hp Continental. It has cruising speed of 110 mph, range of 500 miles. Engineers maintain it is the design of the ship which makes possible that cruising speed from a 75-hp engine. Standard equipment includes a two-way radio. It has a 400-foot take-off run which will make it popular with farmers flying from own field.

AERO-FLIGHT

STREAK Still in the experimental category, the two-place *Streak* is a tandem dual-control ship of all-metal construction. Powered by 85-hp Continental, it cruises at 150 mph, has 700-mile range. A pilot, traveling alone, can load up to 200 pounds of baggage in compartment aft of the rear seat. The *Streak* operates on 73 octane automobile gasoline.

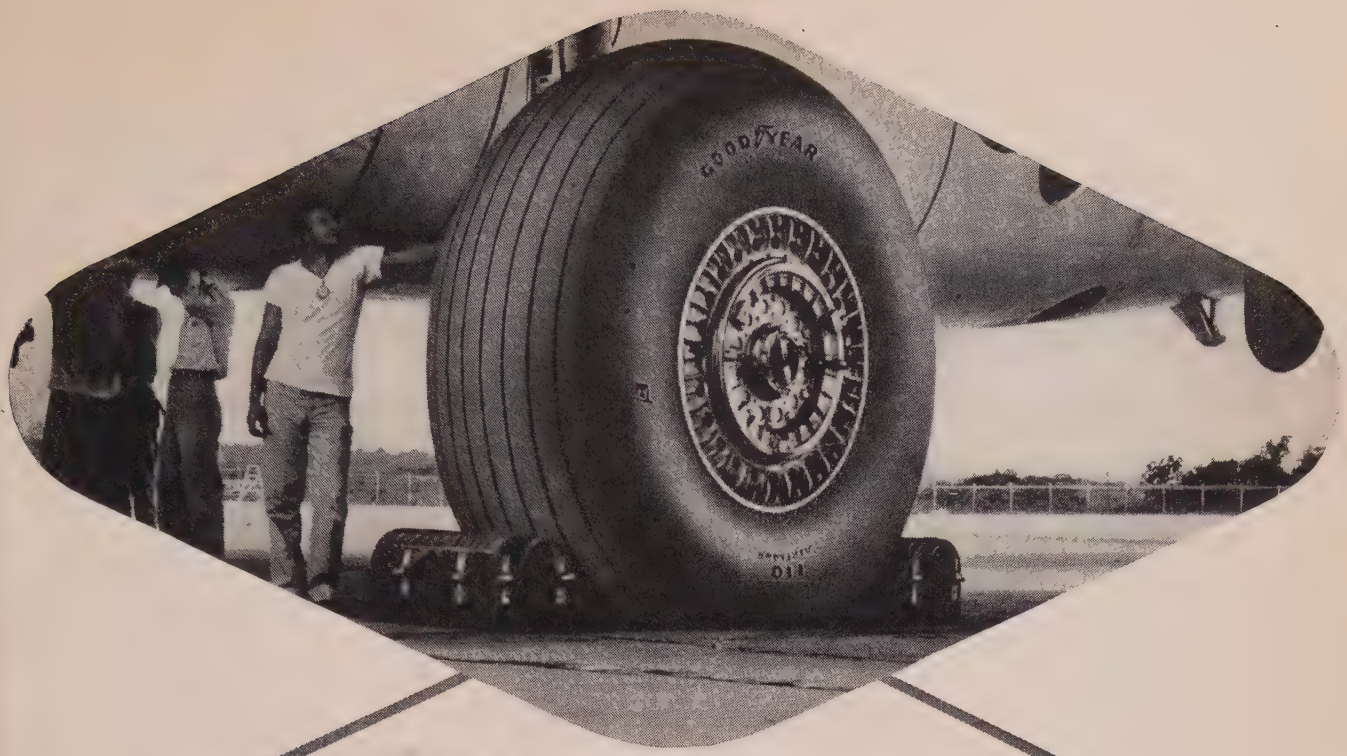
ROSS

SPORT PLANE Probably one of the lowest priced airplanes available today, the *Sport Plane* is a two-place tandem, parasol-type, monoplane powered by 65-hp engine. It cruises at 90 mph, has 230-mile range, but a baggage capacity of only 20 pounds with pilot and one passenger. It is expected to be in production by mid-summer, will sell for $1,600.

AMERICAN PERSONAL AIRCRAFT..1947

COMPANY AND NAME	PRICE	Hp	SPEED*	RANGE	BAGGAGE	EQUIPMENT**
Aeronca Champion	$2,475	65	90	270	40	Maguire receiver, $70.50
Aeronca Chief	2,665	65	90	420	70	Harvey-Wells, $225
Aeronca Chum	***	85	108	400	60	***
All American Ensign	3,495	85	115	500	50	Airadio
Beechcraft Bonanza	7,975	185	175	750	100	Complete
Bellanca Cruisair Sr.	5,950	150	150	650	60	GE *Radiofone*, $281.50
Call Callair	4,000	125	109	450	50	***
Cessna 120	2,695	85	110	420	80	GE *Radiofone*, $269
Cessna 140	3,245	85	110	420	80	GE *Radiofone*, $269
Cessna 190	***	240	***	***	***	***
Cessna 195	***	300	***	***	***	***
Conv.-Stinson Voyager	5,645	150	125	500	100	Hallicrafters
Conv.-Stinson Sta. Wagon	5,745	150	125	500	600	Hallicrafters
Erco Ercoupe	3,450	85	110	500	65	Airadio, $297.15
Fairchild 47	***	190	***	***	***	***
Funk Bee (B 85C)	3,990	85	100	350	50	Galvin Motorola
Luscombe Silvaire 8E	3,595	85	112	508	75	***
North Amer. Navion	7,750	185	160	550	160	Complete
Piper Cub Trainer J3	2,295	65	73	206	20	***
Piper Super Cruiser	3,295	100	103	650	40	Hallicrafters *Skyfone*
Piper Skysedan	***	185	165	750	100	***
Republic Seabee	6,000	215	103	520	75	Hallicrafters
Ross Sportplane RS-2L	1,600	65	90	200	20	***
Skylark Skycraft 447	6,700	190	142	600	100	GE *Radiofone*
Volmer VJ-21	2,900	75	110	500	50	***
Waco Aristocraft	9,980	215	152	657	80	Complete

* Cruising ** 2-way radio, unless otherwise stated; costs extra if price given *** No information



As big as they come!

For complete safety underwheel, Consolidated Vultee's huge new XB-36 — the world's largest bomber — rides on Goodyear tire, wheel and brake units. To carry this 139-ton goliath, Goodyear engineers developed the world's largest airplane tires. They are 110 inches in diameter and 46 inches wide — giant cushions weighing 1,500 pounds each, holding 150 cubic feet of air. To withstand the enormous shock-load of landings, they are sinewed with 34 plies of superstrong nylon fabric, providing a safety factor well above normal requirements. That is true of all Goodyear tires, tubes, wheels and brakes for any job, as small or as big as they come. You can choose and recommend any Goodyear aviation product with confidence that it will provide an extra margin of dependability and ruggedness that insure longer service-with-safety. Goodyear, Aviation Products Division, Akron 16, Ohio or Los Angeles 54, California.

MORE AIRCRAFT LAND ON GOODYEAR TIRES
THAN ON ANY OTHER KIND

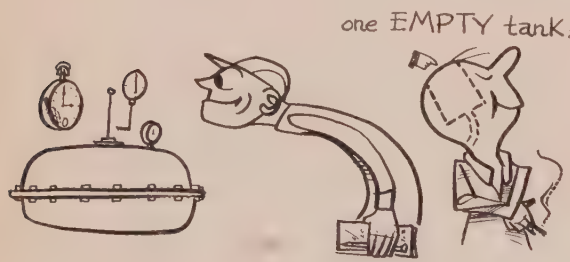
DILBERT

By S. H. Warner and Robert C. Osborn

Get Fuel Conscious—You can't run a gas engine without gas! But it's surprising how many Dilberts have forced landings trying it. The sad part about most of these actions is that there is gas aboard, but it fails to reach the carburetor.

A study of these unnecessary accidents shows they are usually due to ignorance or carelessness; some even to negligence. It all boils down to the fact that this fuel-supply problem is not treated with the importance which it merits.

Fuel-failure accidents should be among the easiest to eradicate because the cure is as simple as the cause. All you have to do is study the fuel system



of any airplane you fly until you are thoroughly familiar with it . . . and then remain fuel conscious as long as you are in the air!

This type of accident usually occurs through failure to observe one or more of the following precautions. Do yourself a favor and give them heed wherever they apply.

1. Never run a gas tank completely dry unless absolutely necessary. You take the unnecessary risk of losing suction.

2. Never switch tanks at low altitude, if avoidable. If you lose suction, it sometimes requires a little time to regain it on another tank, so don't short-change yourself on altitude.

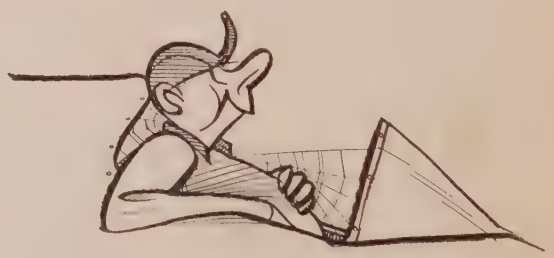
3. If partial failure of your fuel system is noticed in flight, land immediately and have it checked.

4. Get in the habit of checking your gas before descending to low altitude. This should consist of visual reference to the gauges and selector valve setting and a swift mental calculation as to flight time and gas consumption. Be sure you are using your best tank at low altitude.

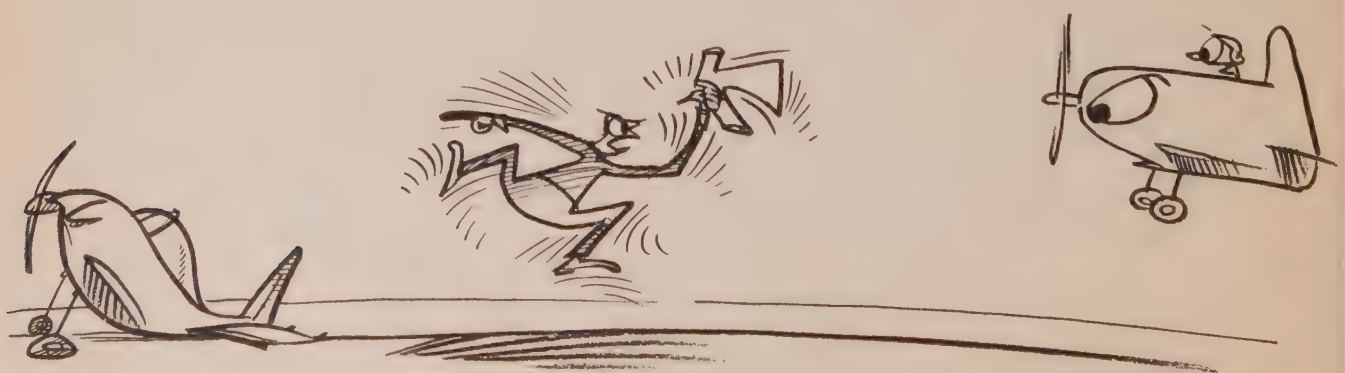
5. When shifting tanks, be careful to center selector so that the valve is properly seated. This can be done both visually and by feeling the click.

6. When an engine sputters, check fuel pressure and selector valve immediately.

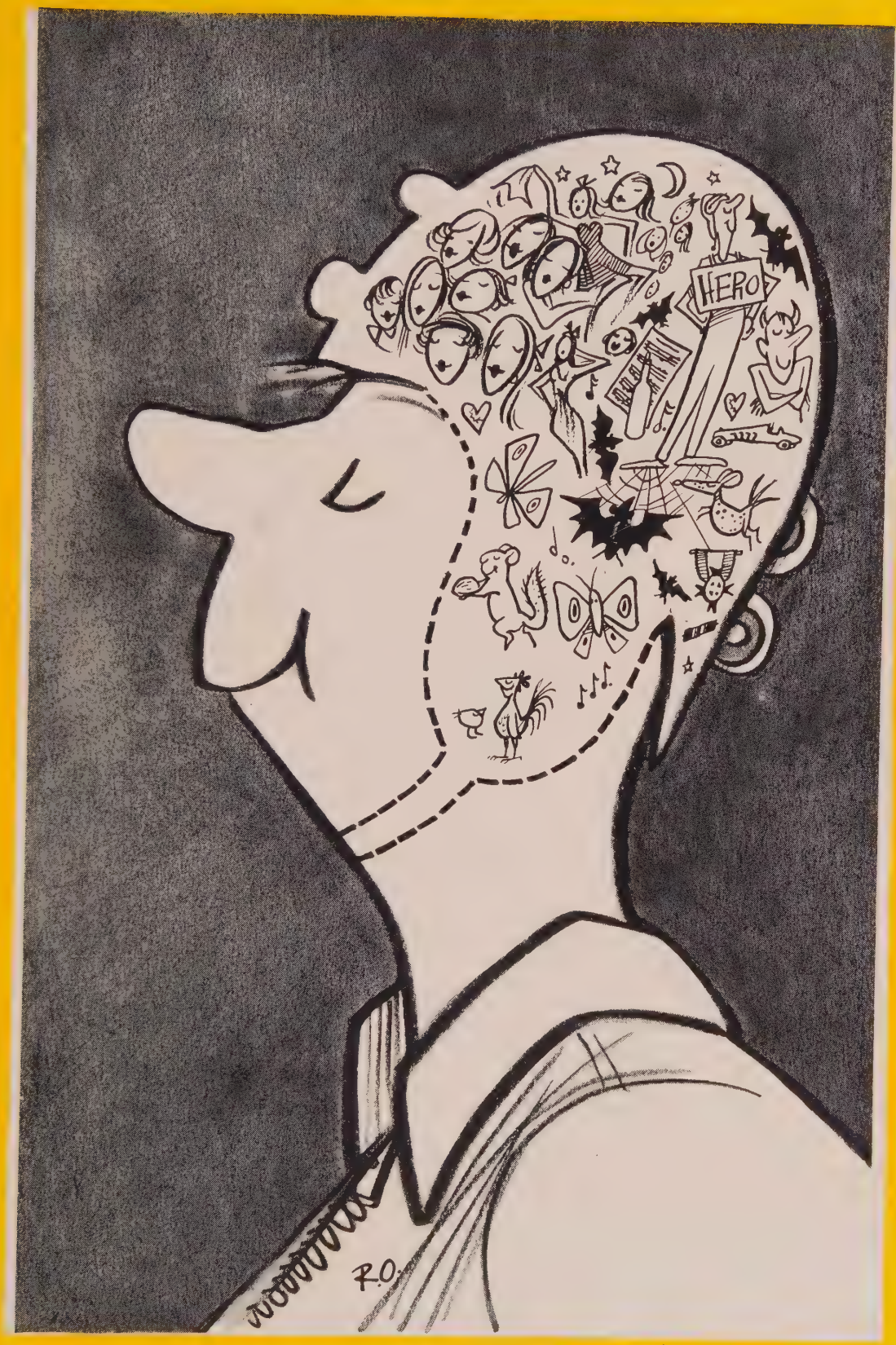
7. Know how much fuel there is in each tank before taking off. Make a mental calculation of how long you can fly on each tank and keep a running check on your fuel gauges and gas consumption. Remember that fuel consumption varies with the power used.



Don't Just Sit There—There is a proper time and place for everything. This is the sad story of a pilot (yes, it was Dilbert) who chose the wrong time and place to relax. (*Continued on page 68*)



"Mark your presence with your skivies if necessary!"



Psychoanalysis of an accident
(Commonly known as "pilot error")

Buy A Useful Plane

(Continued from page 17)

equipment, he would do well to give proper consideration to the airplanes offering him that baggage capacity and range.

Both the Aeronca *Chief* and the Cessna 120 are side-by-side airplanes. This is often important to the air-traveling salesman who might wish to take a friend or business associate with him on an air trip. A side-by-side seating arrangement is a more pleasant one from a long-distance travel point of view.

The Piper *Cub* and Aeronca *Champion* (tandems) are considered to be trainers rather than business-travel airplanes. Again, let me repeat, however, that this classification is not a rigid one—there are many exceptions to it. Farmers are daily using *Cubs* and *Champions* as cross-country airplanes as well as short-hop ships for the purpose of checking their land and their grazing livestock. Certainly, if you want to use your airplane mainly for short excursions and as a piece of utility equipment for your farm or ranch, either the *Cub* or the *Champion* will fit the bill nicely. Practically all of the farmers and ranchers who own airplanes keep their ships in their own barns or hangars on their own property, and they fly them out of and back into their own adjacent fields—all of which often forces the farmer to consider a plane with a short take-off run and brakes. All four of these planes come equipped with brakes and each is available with two-way radio, though at an extra cost.

$3,000 to $4,000:

This next price class includes the Cessna 140 ($3,245), Piper *Super Cruiser* ($3,295), the Engineering and Research *Ercoupe* ($3,450), the Luscombe *Silvaire* ($3,595) and the Funk B85C ($3,990).

Each of these airplanes is a side-by-side coupe-style (two-place) aircraft. The "different" one in the group is the well-known spin-proof *Ercoupe;* all others employ the conventional control system.

The Cessna 140 is basically the same as the 120, except that it has such additional equipment as flaps, starter and generator, position lights on wing and tail, navigation lights, etc. Its performance is the same. The 140, therefore, is more of a cross-country airplane than its sister ship, the 120 . . . and more time in the air means more miles covered. Hence, it is a good ship for the businessman who prefers to spend the greater part of a day carrying on his business, putting in his flying between the hours of 4 or 5 o'clock in the afternoon and after sunset, until 8:30 or 9 o'clock at night.

The *Ercoupe* has been a favored plane by many businessmen and sportsman pilots because of its simplified-control system. Several air-traveling salesmen have purchased *Ercoupes* and are today using them in their business. The fact that with a simplified control system the learning-to-fly time is lessened seems to appeal to busy businessmen. Its cost of operation is only a few cents more than the cost of a *Cub* or *Champion.*

The Luscombe *Silvaire* is a conventional operating aircraft. It cruises at 112 mph, has a range of 508 miles and uses 5½ gallons of fuel per hour. Its baggage capacity of 75 pounds types it as a useful-in-business-or-for-pleasure airplane, too. Actually having to decide between the *Silvaire,* the Cessna 140, etc., would not be easy. The factors which might cause the purchaser to pick one or the other plane would probably boil down to personal preference in interior appointments, stick versus wheel and flight characteristics.

The Funk is a trim little two-seater that, according to reports, is very easy to fly. It has a short take-off and landing run and a high rate of climb after take-off. This has made it a favorite among farmers and ranchers in the west whose homes are in mountainous country. In cases such as this, the territory in which the plane is going to be flown holds consideration precedent over range, cruising speed, and baggage capacity. The Funk, however, offers these, too . . . 100-mph cruising, 350-mile range and 50-pound baggage capacity. It is equipped with wing, tail and navigation lights and a radio receiver.

In the Piper line, the *Super Cruiser* falls in this $3,000 to $4,000 bracket. Its increased horsepower (100) gives it greater range as well as the ability to carry one more person. The *Super Cruiser,* in fact, is the only three-place plane in this category. For the plane purchaser who wants a so-called family plane in the lower-price bracket, the *Super Cruiser* is it. The luggage capacity is only 41 pounds, but with careful packing enough can be carried in the way of clothing, etc. The Piper's range of 650 miles adds to its desirability as a real cross-country aircraft for a businessman or sportsman pilot. Sportsmen who've flown into northern United States and carried a lot of gear have reported that with just two people aboard, the *Cruiser* performs beautifully.

$4,000 to $5,000:

The only plane (beside the mountain-flying *Callair*) in this category is one that is not yet in production, the Piper *Skysedan.* It is expected to be sometime this summer and, according to factory officials, will sell for under $5,000.

The *Skysedan* is a departure for the Piper crowd in that it is Piper's first all-metal airplane. It is powered by 185-hp Continental, seats four comfortably, and has a baggage allowance of 100 pounds. Its range of about 750 miles puts it way up ahead of a large part of the field when it comes to cross-country facility. Cruising at 165 mph, it uses 8 gallons of fuel per hour, which continues the low-operating cost policy so long maintained by Piper. The extra baggage capacity can be translated for sportsmen, to being able to carry golf clubs, etc., or such extra gear as a rubber boat, collapsible canoe, etc.

$5,000 to $6,000:

The four planes in this group (Stinson *Voyager* and *Station Wagon,* Bellanca *Cruisair Sr.,* and Republic *Seabee*) are true cross-country family aircraft in that each carries up to four people, has increased baggage allowance per passenger and good range.

The Stinson *Voyager* ($5,645) rates extremely high as a cross-country airplane because of its flying stability, its performance, its fixed gear that is sturdy and meets rough ground operation and its comfortable pilot and passenger quarters. A two-way Hallicrafter radio, using either loud-speaker or earphones, is also Standard equipment. The 150-hp engine that powers the *Voyager* consumes fuel at a rate of about 10 gallons per hour, or about twice as much as the 65-hp and 75-hp engines use. However, this slight increase in operating costs is clearly outweighed by the extra utility a four-place plane offers. The cost per passenger mile of such a ship as the *Voyager* would be less than that of many two-place, smaller horsepowered airplanes. The *Voyager* is the type of airplane that a business executive could use to transport himself between cities for business appointments. The businessman can step out of his *Voyager* after a 500-mile air jaunt and go directly to an office, with no thought of having to wash up, change clothes, etc. In a similar light, a girl pilot can fly this airplane in her street clothes. There's no need for slacks.

The Stinson *Flying Station Wagon* ($5,745) is the *Voyager* dressed up for the farmer. It is the same ship, performance-wise, as the *Voyager* except that it carries pilot and one passenger and 600 pounds of cargo, instead of pilot and three passengers and just 100 pounds of baggage. The back seat of the Stinson has been removed in the *Flying Station Wagon,* thus providing the farmer or rancher with 24 cubic feet of cargo space. Specially designed tie-down straps permit the farmer to load equipment, supplies or what-have-you into that cargo space right up to window level. This ship, like the deluxe *Voyager,* is soundproofed and is equipped with radio, etc. Sportsmen who go on week-long (or longer) fishing or hunting trips will find that they can carry all their gear, including an outboard motor and collapsible boat, in the *Station Wagon's* cargo space.

A good ship for company ownership is the four-place Bellanca *Cruisair Senior.* Over-all, the *Cruisair* is larger than either the *Voyager* or the *Station Wagon,* although its gross weight is less and it carries no more than four people. Powered by 150-hp Franklin engine, it cruises at 150 mph, 25 mph faster than the Stinsons, and has a range of 650 miles. This is also greater than the range of either Stinson. The *Cruisair's* well upholstered and designed interior makes it an executive's airplane. Its extra non-stop range and higher cruising speed make it a get-further-quicker airplane that would appeal to the busy executive to whom time is an all-important factor.

The Republic *Seabee* ($6,000), because of its being an amphibian, probably offers about the maximum in airplane utility. The owner of a *Seabee* can not only make use of the nation's airports but he also can land on the country's waterways. It is the kind of airplane that can be used as a business plane during the week, and then on weekends deliver its owner and guests to waterway resorts for hunting, fishing, golf, etc. It is a heavier airplane than any of those thus far mentioned, and it uses a larger engine, all of which increases its fuel consumption to about 15 gallons an hour (has a range of 520 miles, cruises at 103 mph). However, its greater usefulness probably would outweigh its increase in both initial and operating cost. It isn't a beginner's airplane.

Of particular interest to sportsman pilots

(Continued on age 83)

STANDARD OF CALIFORNIA'S

PLANE FAX

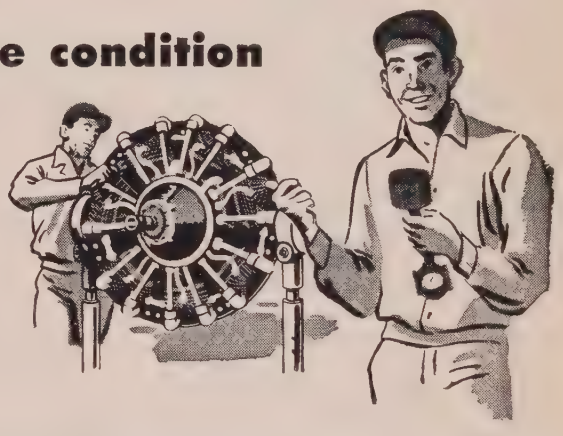
A page of service tips for private flyers and fixed-base operators

High-altitude flying increases light-plane efficiency

You'll get higher cruising speed, better fuel economy, and longer range by cruising a light plane at 6,000 to 9,000 feet. This is due to less drag with the decrease in air density at higher levels. However, improper handling of mixture controls can cause loss of range. When flying above 5,000 feet the carburetor mixture should be leaned until r.p.m. decreases, then enriched enough to recover loss of r.p.m. Maximum economy can be obtained with CHEVRON Aviation Gasoline.

Oil consumption indicates engine condition

Increasing consumption of oil is your first and best warning of mechanical trouble such as worn, broken or sluggish piston rings or worn pistons. To help prevent clogged rings and excessive wear resulting in high oil consumption, RPM Aviation Oil contains a detergent that keeps ring belt areas free from deposits. Another compound in "RPM" makes it cling to hot upper cylinder walls. Some aircraft operators find that the use of RPM Aviation Oil has doubled the time between overhauls when compared with ordinary, uncompounded oils.



Use care when selecting hydraulic fluids

Some planes are equipped with natural rubber hydraulic tubing and seals, others with synthetic rubber. Natural rubber is damaged by petroleum. It is therefore important to know which kind of tubing your plane is equipped with, and use the proper type of hydraulic fluid. If your plane is equipped with natural rubber tubing use Atlas Brake Fluid, if synthetic rubber, RPM Aviation Hydraulic Oil should be used. For easy identification, this petroleum base fluid is colored red.

CHEVRON NATIONAL CREDIT CARDS AVAILABLE for private flyers, good at airports throughout the United States and Canada. If you reside in the West, write Standard of California, 225 Bush Street, Room 1618, San Francisco, California... or ask the Standard Airport Dealer at your field for an application blank.

Pilot's Report . . Chum

(*Continued from page* 19)

purpose of writing this article, my anticipation had risen to the point of eager excitement over the prospect. I had heard so much theoretical and controversial argument against two-control aircraft by professional pilots who had never flown one, and some very favorable reports by non-professional pilots who had, that I wanted to find out for myself and report on a professional pilot's reactions. Pictures of the *Chum* had impressed me with her neatness, and flying her would enable me to report upon a new model in the two-control class.

When I walked out to the experimental test hangar on the flight line, Lou was just taxiing the *Chum* in from a test hop, and I had an opportunity to examine the airplane.

It is a two-place, low-wing monoplane, with conventional empennage and tricycle gear. It rides low on this gear, which makes it easy to enter by a low step to the trailing edge of the wing, and a step forward to the door. The doors are wide, set well forward of the seat, and curve almost half-way over the top of the cabin. Thus it is possible to stand upright on the floor of the cabin. You don't have to step on the seat when entering or leaving the airplane. The wide doors opening forward also block any attempt to step forward off the wing, with the resultant danger of stepping into the whirling propeller.

The interior appointments of the *Chum* are luxurious. Rich upholstery covers thick fiberglas insulation which reduces the noise level of the cabin remarkably. The floor is carpeted, and the fixtures are ultra-modern. The wide cabin easily accommodates two persons, and the forward leg room is equal to that in the front seat of the average light automobile.

Climbing into the *Chum* and sitting down, I sank luxuriously into restful relaxation in the extra-thick airfoam cushions, stretched my long legs out easily onto the roomy, rudder-pedalless cabin floor, and immediately decided that this was a lazy man's airplane. Since there are no rudder pedals it is unnecessary for the seat to be adjustable and the brake pedal is conveniently placed in the center, where it is out of the way and can be reached easily from either side.

The dashboard layout is neat and convenient. All instruments are mounted on an integral panel in the center of the dash and can be seen easily from either side. The large, three-inch, airspeed indicator, altimeter, and engine tachometer, are mounted across the top of the panel. Below these are the smaller fuel gauge, oil pressure gauge, and generator rate-of-charge indicator. In the center, on the wide rounded shelf which extends forward from the dash to the bottom of the windshield, is mounted the compass.

The engine controls are mounted just under the instrument panel with the throttle in the center. Small pull knobs on either side of the throttle control the cabin heat, engine prime, and parking brake. The fuel injection system of the engine requires no carburetor heat. The magneto switch, with a key lock, is mounted to the left, and the fuel gauge switch is mounted to the right of the engine controls. The position light switch is to the right.

All of these instruments and controls are between the two flight control columns, so that it is not necessary to stretch across the person sitting beside you to reach them from either side. The controls, fuel lines, and engine control lines are covered by interior paneling and are hidden from view. Thus the simplicity of the interior adds to the richness of its appearance.

Even though, through my work as an aeronautical engineer with the AAF, I am familiar with several army types of aircraft with tricycle gear, on which the control wheel takes over the function of steering on the ground, and though I was aware that this would also be true with the *Chum*, a feeling of strangeness at having the wheel do what the rudder pedals normally do in a conventional-control aircraft stayed with me throughout my ground handling of the plane.

Set down in writing, my mental struggle to overcome long enforced habits of flying conventional-control aircraft is over-emphasized. However, for the benefit of you conventional-control pilots who have never flown a two-control aircraft I want to describe some of these reactions. Then when you take your first flight in a two-control craft you will know the type of reactions to expect from yourself. Perhaps if you think through the problem beforehand you will be able to carry off your first flight with a minimum of mental gymnastics.

Actually, I found the *Chum* a much simpler airplane to handle on the ground and in the air, more easily controlled and with far better visibility, than the types of conventional-control aircraft that I have been flying, and in which I have given many hours of flight instruction. The ground control and visibility, however, are functions that would be shared by any conventional-control aircraft with tricycle gear and similar cabin structure. The simplicity of handling in the air is a function unique to the two-control aircraft and is therefore shared only by other aircraft of this type.

My first reaction after I had climbed into the *Chum*, settled down into those comfortably soft airfoam cushions and adjusted my safety belt, was that the control wheel was very stiff. Then I remembered that it was connected to the nose wheel for steering on the ground as well as to the ailerons and rudder. However, it moves freely enough to check your aileron control and the stiffness indicates positive steering action. As I started to taxi and saw only one brake pedal I wondered "Now how do you control right and left brake pressure?" The answer was obvious; you don't. You don't need to. With the positively controlled steerable nose gear, your brake action is only needed to slow down or stop. Therefore the brake works with equal pressure on both main wheels as it does on your automobile. The nose gear of course has no brake.

I experimented with taxiing to prove to myself that positive steering control could be maintained, and continued to find it difficult to realize that my control was the wheel in my hand. I zig-zagged down the field at a good clip and stepped hard on the brake a couple of times to find that the plane came to a smooth but quick stop with no tendency to pull to the right or left.

Finally satisfied that taxiing control was much better than in the conventional-gear type of airplane and that visibility ahead was 100 per cent better, I turned onto the end of the runway.

After checking my mags and engine rpm, I prepared to take-off and asked Lou Wehrung to describe the best take-off technique to me. "Suppose you were to come in here to take delivery on a new airplane. With many people here for the same purpose I wouldn't be able to check each one out. Suppose you just do as you would under those circumstances," he replied.

So I gave her the gun and started down the runway. I kept a little forward pressure on the control wheel to keep the nose-wheel in contact with the ground for I had convinced myself by this time that directional control was maintained by the nose wheel. After we reached what I thought should be flying speed I eased back on the wheel slightly and let her fly herself off.

Lou asked if I had been holding my brake during take-off as the *Chum* seemed a little slow building up speed. I glanced down and saw my right foot was still on the brake pedal. I was "holding a little right rudder" to counteract engine torque on the take-off. I felt silly, but Lou, being an oldtime conventional-control pilot himself, was expecting that reaction.

In reply to my query, Lou told me the best rate of climb was 65 mph so I trimmed her for that speed with the elevator trim tab control wheel, conveniently located between us in the front edge of the seat. I checked her for rate of climb up to about 2,500 feet. We reached this altitude in about 4 minutes, which closely approximates Aeronca's claimed rate of climb of 610 feet per minute. I didn't have time or the facilities to run an accurate rate of climb, but I was satisfied that their claim is conservative. At this altitude I tried both power-off and power-on stalls. The airplane stalls nicely with a clean break and no tendency to fall off on either wing, then it recovers quickly with just a slight relaxation of back pressure on the wheel.

After handling the controls of the *Chum* in the air, I was surprised to realize that I was able to sense very little difference between the feel of this airplane in maneuvers and that of the conventional-control type. Although I was acutely aware of the lack of rudder pedals on the ground, purely from force of habit rather than necessity, control in the air was so smooth and well co-ordinated from the wheel alone, that I felt no need for rudder pedals at all. Co-ordination habits in the air, of course, result in the pilots' using rudder pressure only as he "feels" it

(*Continued on page* 81)

THE PACKET...
Five-Gaited Pegasus

On duty in ever increasing numbers with the Army Air Forces, the Packet has become a flying work-horse with a thoroughbred blood line. It has found a lot of jobs to do for the Army.

It carries guns and supplies and a ten-wheel truck, other weapons or ammunition.

It transports men—Airborne Troops and Air-Transportable Infantry with their specialized weapons.

It is a jump ship, transporting 42 paratroopers to target.

A Helicopter with *minimum* disassembling can be easily transported and quickly readied for flying.

And, in a few moments this plane can be transformed into a hospital ship, ready to bear 34 litter wounded and four attendants.

For nearly a quarter of a century, Fairchild engineers have worked to make the airplane more efficient, more useful. In the Packet they built the first plane designed specifically to carry military cargo. But engineering ingenuity gave it as well the ability to fulfill *many* of the rapidly shifting requirements of modern military operations.

Fairchild Aircraft

Division of Fairchild Engine & Airplane Corporation, Hagerstown, Maryland

Pay As You Fly

(*Continued from page 23*)

have been lowered. These are just a few examples of the kind of thing we mean by "useful extras."

How about cost? Well, thanks to a plan which has been successfully operating on a national scale since last summer, you not only can purchase your airplane "on time" just as you would a new car, but you can include these useful extras in the purchase price and finance them, too. You pay one-third down (of the total cost of airplane plus extras), add the insurance and 5 per cent finance charge (per year), and pay this balance over a period of 18 or 24 months. On the recently permitted 24-month arrangement (for balances of $2,000 or more), these extras will add but a few dollars per month to your payments but will add immeasurably to your enjoyment of your plane. We refer to the Universal C.I.T. Credit Corporation Plan, now available in some 330 branches all over the United States.

The Universal plan applies to airplane purchases the long-established flat 5-per cent carrying charge for the purchase of motor cars. However, the plan is limited at present to planes with a gross weight of 3,000 pounds or less, and with a base price of not more than $7,500. An apparent exception is the newly priced standard *Navion*, which at $7,750 includes a group of essential extra items that nine out of 10 purchasers were specifying anyway, and which will be less expensive to put in right on the production line; also a $261 increase in the engine cost.

The C.I.T. Credit Corporation also finances the flow of planes from the manufacturer to the distributor or dealer, as well as retail sales to licensed pilots. Universal C.I.T. is thus rapidly becoming an important factor in opening up the volume sales bottleneck.

A useful feature of the Universal plan is that insurance is also covered in a single-packaged deal. This means simplicity and a minimum of red tape, and in case of subsequent resale or other adjustments, dealing with one company only. In some cases there may be a somewhat more comprehensive coverage under the Universal plan, with slightly lower rates. Ground risk, flight and crash risks (CIC on the form, also called "Hull" insurance in the trade, a carry-over from marine insurance) for private business or pleasure uses on new airplanes cost 10 per cent per year of the price of the plane plus extras. On used planes the charge is 13 per cent per year.

Also as in automobile insurance you can be insured against public liability claims up to $10,000 for death or injury to one person in each accident, with property damage claims up to $10,000 for each accident. This liability insurance (PL and PD on the form) costs only $26 per year. The Universal plan has a special advantage in that this necessarily substantial cost of plane ownership can be financed on an 18- or 24-month pay-as-you-fly basis. It will be noted in the sample figures submitted that in the "one-third down" figure the insurance is not included, but is added later as part of the "balance to be financed." On the other hand, especially in the four-place planes where more passengers may be carried, it will probably be found that the more flexible insurance arrangements of such companies as Aero Insurance Underwriters, United States Aviation Insurance Underwriters, etc., which have agents throughout the country, may be preferred.

Taken altogether, though, it looks as if the Universal C.I.T. Plan is one of the best things that ever happened to private flying, and the corporation is to be congratulated on the vision, as well as sheer courage, shown in launching such an ambitious program so early in the postwar readjustment period. In some ways it is true pioneering, and there are bound to be some losses and temporary set-backs, but their management insists they are in it to stay, and are playing for keeps.

A *Skyways* survey indicates that the plan is well regarded by the industry, and that during the past six months a sales volume total of several million dollars, both wholesale and retail. was financed by Universal C.I.T. The survey also indicated that local banks were beginning to become more interested in this type of financing, and also that the Bank of America, with its more than 1,100 branches in California, and which has been a pioneer in this field, is in it stronger than ever. Most companies leave matters of finance and insurance up to the local dealers and distributors, but Piper offers its widespread network some very definite guidance in this field in the form of a list of approved finance institutions which it has investigated. Piper also has a standard, simplified accounting system for its dealers and distributors which it reports as working very well.

A good plane to start with is the popular Cessna. The 120 falls into the trainer class price-wise and in the matter of standard equipment furnished, though it has more power, speed and range than the average trainer. At $2,695 F. A. F. (fly away factory) you get a good sound all-metal 85-hp side-by-side two-place plane which comes equipped with the bare necessities; including standard engine and flight instruments. As you will see by referring to the chart, down payment is $899, leaving unpaid cash balance, $1,796. Insurance for the 18-month finance period is $443 (hull insurance 10 per cent of $2,695 for one year, plus a half, $404; public liability and property damage, $39, or once and a half times the standard $26 for a year). This makes total to be financed $2,239. Finance charge of 7½ per cent (5 per cent per year), $166, which make a total time balance to be cleared of $2,405, with 17 payments of $141.47 and final payment, $141.48. (Cents are omitted in chart.)

The Cessna 140 is the de luxe model, same as the 120 as far as performance goes, but considerably dressed up from the equipment angle, suitable for the more experienced pilot who will be taking a passenger on occasional hops. These items include starter, generator, flaps, floor rug, mixture control, radio antenna and navigation lights, plus a super styling and finish similar to a fine car. Price is $3,245, and monthly payments are $131.27, (see chart).

However, to get the fullest utility out of the 140 (and in one case—the metal prop—greater economy) many Cessna dealers are recommending a select group of useful extras, of which the most important (and most expensive) is the General Electric *Radiofone* for two-way communication. At $269 this comes complete with loudspeaker (which is *really* loud enough), headphones (in case you prefer them), and an engine shielding device to cut out static. Another very useful item is the McCauley metal propeller (not variable pitch, but an improvement in efficiency and economy over the standard wooden propeller supplied), which nets an extra $60 ($110 less allowance of $50 for the standard prop). Other recommended extras are cabin heater ($30), landing lights ($35), and the following primary flight and navigation instrument group (approved by CAA, and referred to hereafter as *primary instrument group*): Bank and turn ($70), rate of climb indicator ($47.50), sensitive altimeter ($45) and clock ($32.50), or $195 for the set. This all adds up to $589, making a total cash price for the de luxe high-utility Cessna 140 of $3,834. Increased monthly payment for these useful extras is $23 (see chart). If you start with a 120 and cannot afford to switch to a 140, a lot of extra utility for the 120 itself can be gained by installing radio, lights and heater at a cost of $334. If added to the 120 when purchased, extra cost per month is negligible.

As in the case of the Cessna 120, extras for the Aeronca *Chief* (which lists at $2,665) will make it highly suitable for cross-country flight and add to its utility generally. (See chart, p. 80.)

In the cross country class, the Piper *Super Cruiser* is a three-place 100-hp ship which offers considerable utility in its 1947 version. A Hallicrafters lightweight *Skyfone* two-way radio and built-in direction-finding loop antenna are now standard equipment at the $3,295 list price. Additional utility can be gained by installing a GE portable landing light which can be attached to a strut ($27.50) and an adjustable propeller. The lightweight Aeromatic for engines of 100 to 150 hp costs $329 and has been approved for the *Super Cruiser*. Approval is expected shortly for the Beech Robey ($335) and Sensenich controllable props, now under test. Any of these will add to the flexibility of the *Super Cruiser* in its use of small fields, and also help fuel economy at cruising speed. For pilots with a fair amount of cross country flight experience, the primary instrument group can be installed for about $225. These useful extras add up to about $580, making a total of $3,875 for the high utility *Super Cruiser*, or $23 extra per month (see chart).

A list price jump of nearly $2,000 brings us to the Convair-Stinson *Voyager 150*, which retails at $5,645 F. A. F., with $100 more for the highly utilitarian *Station Wagon* version. In this four-place family and business class more of the essential extras are built into the plane as standard equipment. For example, the *Voyager* includes a Hallicrafters CA-4 two-way radio (more powerful than the CA-2 unit in the *Super Cruiser*, including very satisfactory loudspeaker), cabin heater, landing lights, dome light (often saves having to carry a flashlight), and a very roomy luggage compartment with outside door. All this sounds like an airplane which can get places, and no trouble to fly.

However, for another $329 an Aeromatic prop can be installed, and for $245 a primary instrument group in a special panel, a total of $574, or $23 per month (see chart). For experienced pilots an advanced Gyro instruments group is available for $856.50 installed. This includes the Sperry Altitude Gyro and Sperry Directional Gyro Compass

(*Continued on page 80*)

An AEROMATIC* Propeller Gives You More Life . . . Lift . . . Range—AUTOMATICALLY

TAKE OFF: Automatically, with engine at full throttle, Aeromatic Propeller assumes low pitch . . . gets plane off ground quickly . . . allows use of full take-off power.

CLIMBING: Automatically responds to natural forces . . . increases pitch as air speed increases . . . gets plane to cruising level fast . . . on minimum fuel.

CRUISING: Aeromatic automatically maintains the most advantageous pitch for top cruising performance on minimum fuel at any level up to critical altitude.

LANDING: Aeromatic automatically adjusts its pitch for a long, flat glide . . . moves to low pitch instantly for a quick pickup if the pilot overshoots the field.

No doubt about it, an Aeromatic Propeller is the ticket for making full use of your private plane!

IT'S COMPLETELY AUTOMATIC! The Aeromatic Propeller is the *only* completely self-acting and self-contained propeller . . . varies its own pitch automatically for peak performance all the way. There are no extra controls to fuss with . . . no extra instruments to watch.

PUTS MORE PEP IN YOUR PLANE! One-fourth shorter take-off run! One-third higher rate of climb! Greater cruising range and speed! All with less fuel consumption, less engine wear! That's what you get from Aeromatic—"the propeller with a brain."

WRITE FOR INFORMATION! If you own a new plane or plan to buy one, enjoy the extra advantages of an Aeromatic Propeller. Write to your aircraft manufacturer or distributor and see if you can have an Aeromatic on your plane. Or drop us a line for your free Aeromatic booklet. Koppers Co., Inc., Aeromatic Propeller Dept., 274 Scott St., Baltimore 3, Md.

Custom-Tailored for the Planes they Fly

They are available now for most new private planes and are being approved for other makes and models.

The Propeller with a Brain for Your Private Plane

Aero matic

Air Controlled Automatic Propeller

Licensed under patents of Everel Propeller Corp.

K KOPPERS

*Reg. U. S. Pat. Off.

From the Rear Pit

(Continued from page 28)

main locked and lonesome in the empty heads of the students, but a strict respect for the truth demands that they be made known to the misguided laymen who think that flight instructors are fine fellows.

The most interestingly diabolical type of instructor is The Dramatic. The dramatic instructor is, first of all, a tough instructor —probably because he devotes his nights to thinking up acts for his students rather than to sleeping or recreation. Some of his improvisations on the English language are beautiful and precise; it is unfortunate that they are unprintable. His gestures and mannerisms, however, are nearly as interesting. He will ask one of his students to do a certain maneuver, "Let's do a loop now, round and smooth like a chorus girl's thigh." Of course, the eternal student muffs the maneuver, which is the cue for The Dramatic to go into his act. Depending on his mood, he will throw up his arms in despair, wring his hands and weep (real tears), rips off his helmet and goggles and pounds them on the cowling, or beat himself on the head. All of these little antics are accompanied by rare cursing that would shame a traffic cop. Never a dull moment with this type of instructor.

The silent type of instructor is rather an anomalous case, and it is a delight for a student to fly with such an instructor who, because of diffidence or apathy, seldom uses the infernal Gosport. Mr. Silent will say to a student, "Give me a turn to the right." The student skids a turn to the right. He will say, "Do a chandelle." The student stalls through a chandelle. Then he says, "Let's go back to the airport." That's all there is to it.

The antithesis of the silent instructor is the dreaded talkative one. The talkative instructor starts his jaw working as soon as the student opens the throttle and he doesn't stop talking until the flight is over. The talking he does, understand, is not such prosaic conversation as "Aren't the clouds beautiful today?" Oh no, it will run something like this with numerous unprintable words deleted: "Keep it straight, keep it straight. Get that nose down. My God, are you trying to kill us both? Get that wing up. No, no, stick and rudder and then neutralize. Whoever told you that you could fly? Oh hell, take us back, you're only wasting my time." After a few minutes of this sort of talk even the most calloused student becomes tense and nervous. Upon landing, though, Mr. Talkative, for reasons of self defense, becomes as sweet as a collector's first bill. He will then explain to the student, "You've got to learn to relax up there; that's your only trouble."

When it comes to mental cruelty, the talkative instructor at his worst cannot compare with the "ladies' man" instructor at his best. This most hated of instructors is easily identified by the flashy wing-bedecked uniform and flowing parachute silk scarf which he invariably wears to impress the girls and to remind them that he is a "hot pilot." On the ground this instructor treats his students with scorn. In the air he is never so polite and a student soon learns that the only way to make life in the air bearable with uch an instructor is to flatter his already swollen ego. This is accomplished by the use of such statements as, "Gee, I wish I could do lazy 8's as smoothly as you do?" and "Do you think I'll ever be able to fly as well as you?" Uttered in a tone of religious adoration and in the presence of the instructor's ever-present entourage of females such comments will convince the instructor that here is a student with unusual judgment and precocity.

Of course, Mr. L. M. Instructor sometimes runs into trouble because of his ardent desire for the respect and admiration of the fairer sex. One Jerry Jackson, flight instructor and paramour extraordinary, could testify to this fact if he had not met with an untimely demise. J J, as he was called, took up a 65-hp *Cub* one day just to give the girls a thrill. Now a 65-hp *Cub* is not a pursuit ship and was not designed to be flown as one. But J J wanted to impress his rapt audience with the fact that even flying a *Cub* was daring and exciting business, so in taking off he held the *Cub* down in order to pick up speed. Then, with the motor puttering a feeble protest he pulled the ship up and around in a steep chandelle. It would have been a beautiful maneuver if the motor hadn't inconsiderately quit in the middle, causing a low-altitude stall and the inevitable crack-up. When they finally got the motor off poor J J's lap and pulled him out of the wreck, a beautiful damsel was heard to remark, "What a wonderful way to die." One of his students merely said, "... damned fool."

SKYWAYS

"A fellow's got to relax now and then!"
LAMB

It would be rank injustice to the few good Flight instructors to pass over them without a word. These instructors are almost as rare as the Dodo Bird, but a fortunate student may occasionally encounter one. Call him the "Perfect-but-near-extinct" type and treat him kindly. Rare as they are I could name one of these perfect instructors, but it would only discourage the millions of students who would beat a path to his door, for he is unavailable for giving dual. He is now serving time on a charge of beating his wife!!

Oh well, I should worry about it. Soon I'll have enough flying time to become an instructor myself. And then, will my students catch hell!! I can hardly wait to grab that Gosport and start yelling, "Don't dive it, don't dive it. My god, you'll kill us both. Oh, you boob, you couldn't learn to fly a kite!! Let's go home!"

From the Front Pit

(Continued from page 29)

band is pleased, but after a couple of suppers with the secretary, he asks himself whether his trusting spouse really has a brain. Doesn't she know the facts of life?

It's the same way with some students. Timothy Shea was flying along about 2,000 feet when his flight instructor cut the engine and barked "Prepare for a forced landing." The engine sputtered and died. Tim looked around gleefully. Here he had only four hours in the air and the engine was dead. He waited for the instructor to do something. He noticed the instructor perspiring as he moved the throttle back and forth. Fortunately there was a large meadow within gliding distance.

Tim got out and looked at his instructor. "You really put on a good show, then," he grinned. "But you can't scare me!"

Sometimes a student will have all good qualities but one. He may, perhaps, subconsciously, treat the instructor as a hired servant. After all, he, or the Government, is footing the bill. Sometimes the student-instructor relationship is strained by the fact that the instructor held a higher rank in service. By some inverse reasoning, this has been known to cause patronizing in civilian life. In such a case, the civilian student feels free to slap the instructor on the back, tell him what's wrong with his pedagogical approach, offer to buy him a cup of coffee, or give him advice on where to get a good job.

An instructor in California settled this problem with a newly discharged veteran by having a beautiful blonde ask the veteran if he could introduce her to the handsome instructor.

"Oh, him. Sure," the veteran said. "He's my boy. A little shy, but what do you expect from a fellow who has to make his living this way?"

"Don't you know?" gushed the girl. "He just turned down a movie offer!"

Fantastic, but after that the vet became an ordinary citizen-student, and he shined his shoes before coming out to the field.

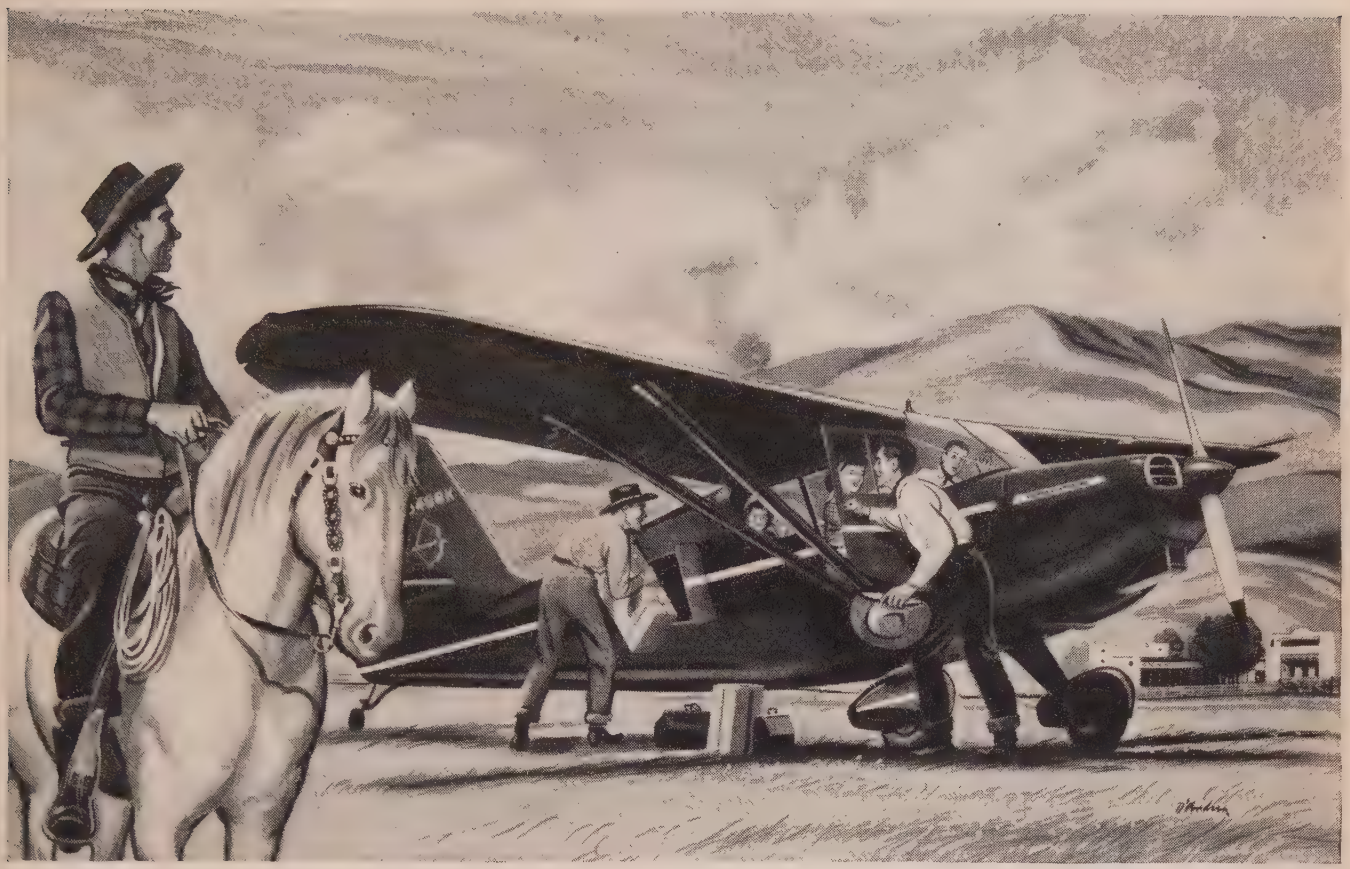
While mere conceit may be punctured, only drastic action can cure the Late Arrival student. He always feels that it wasn't really his fault. All the ingenuity developed in four years of military discipline has produced an amazing collection of excuses . . . his mother just died, his wife had to be taken to the hospital (I'm probably a father by now, have a cigar!), he had to answer a summons in court, his car had a flat tire . . . ad infinitum.

The gentlemanly procrastinator type usually phones first. He says he will be "a little late" when he is already 30 minutes behind time. Then he drives up with an eye-filling flirtatious brunette. The other instructors make a play while her friend is upstairs. This warps the intructor's viewpoint with regard to his student's judgment. Certainly, he could have come a little early, and given his owr instructor a chance to make a date.

At another extreme is the student who comes out an hour early, lets the aggressive late-comers take over part of his scheduled hour and winds up as the last student of

(Continued on page 84)

Users call it a "fly-anywhere" plane—



Stinson Voyager owner, and family, drop in to visit rancher friend during flying vacation trip.

the proved Stinson Voyager... improved for '47!

YES, the stunning new *21st Anniversary* Stinson Voyager *is that kind of plane!* It's an easy-to-fly plane with inherent stability and rugged dependability—a "fly-anywhere" plane which can operate safely even from small fields and pastures.

And trimmed for straight and level flight, this luxurious new 4-place Voyager literally flies itself! "No hands—no feet" on the controls!

See what you get in the proved Stinson Voyager—improved for '47!

The Stinson Voyager carries useful load of 1006 lbs. Cruises at 125 m.p.h. Maximum speed, 133 m.p.h. Take-off run, only 620 ft. Rate of climb, 650 f.p.m. Service ceiling, 13,000 ft. Stops in 290 ft. after landing.

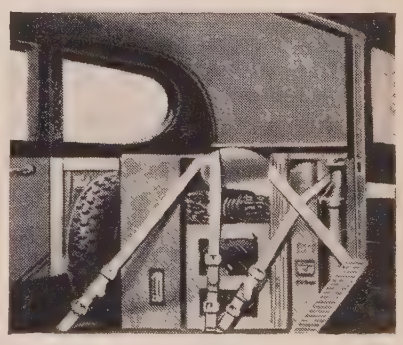
Flaps for quick take-offs and slow, short landings. Built-in wing slots for safety. Inherently spin-resistant. Oleo spring-draulic landing gear for smooth, cushioned landings.

Two-way radio, with dome loudspeaker . . . sealed-beam landing lights . . . navigation lights . . . engine starter . . . dual engine mufflers . . . hydraulic brakes. Cabin interiors designed by Henry Dreyfuss, soundproofed and air-conditioned for added comfort. Foam rubber seats . . . and many other de luxe features.

See this beautiful new Voyager at your Stinson dealer's. Once you fly it, you'll never be satisfied with anything less! Write for illustrated brochure to Stinson Division, Consolidated Vultee Aircraft Corporation, Dept. C, Wayne, Michigan.

Stinson

FOR 21 YEARS—AMERICA'S GREATEST NAME IN PERSONAL PLANES



New! America's first personal "cargo" plane! See the new Stinson Flying Station Wagon. Reinforced 24-cu.-ft. cargo compartment in 2-tone plywood paneling equipped with tie-down straps.

A side-loading baggage compartment offers an additional 11 cu. ft. of carrying space.

Carries pilot and 600 cargo pounds, or pilot, one passenger, and 500 cargo pounds. Two rear seats can be replaced in 5 minutes' time.

"The lesser of two evils!"

Dilbert

(*Continued from page 58*)

He blew a tire on landing. Unfortunately, he didn't groundloop. Unfortunate in this case, that is, for a groundloop would have swung him off the runway and thus prevented this more serious accident. As it was, he cut his switch about two-thirds up the runway, waved to the hangar for help and then sat back and waited.

He didn't have to wait long. The next plane to land was flown by a student pilot who taxied right into him. The tail of Dilbert's plane was chewed off up to within a foot of his head.

Sure, the student was to blame for this crash, but that didn't keep Dilbert from losing his plane and almost his scalp. Lest you blame the tower for this fiasco, know that Dilbert had turned off his radio, the student didn't have one and was evidently too intent on his landing to see the red light.

Dilbert could have prevented the whole thing. In the first place, he should have taxied off the runway immediately. If that was impossible, he certainly should not have continued sitting in the plane with his back toward possible oncoming traffic. He should have humped himself out of the cockpit and gone to the side of the runway, ready to flag down any approaching plane—using his skivies, if necessary.

The Lesser Of Two Evils—Suppose you're in a tight spot. You know you can get out of it by accepting probable minor damage to your plane. By risking a major crash, however, you have a chance to get out of it entirely. What would you do?

It is advisable to think these things through ahead of time, so you can act intelligently instead of guessing. Guesswork in aviation is too expensive. Here are a couple of pilots who guessed wrong.

The first one had 150 hours flight time and was making his solo flight in a new type of plane. During a practice landing, he hit on his right wheel and swerved approximately 90 degrees to his landing course. After hesitating a moment, he applied full throttle and attempted to take off. His plane was demolished when it hit the boundary fence.

The other one had 750 hours of flight time and was flying a 500-hp job. It started to swerve on take-off and finally left the runway at a sharp angle. The pilot "guessed" he could make it and continued his take off. Even though the field was rougher than he had figured, he did clear the boundary fence, but not the trees beyond it. Result: a wiser pilot, but one without an airplane.

Ill-considered snap judgments like these turn many potentially minor accidents into major crashes. No definite rules can be laid down to cover all cases. If you are in trouble on the ground, which makes your take-off *doubtful*, it is usually better to cut your gun instead of attempting to pull it through with full throttle.

Airplane Doctors—Before a surgeon closes an incision after an operation, a nurse accounts for each instrument clamp, sponge and piece of gauze, to be certain nothing is sewed up inside the patient.

Certainly an airplane, with the lives of the occupants at stake, is entitled to the same check before an overhaul is buttoned up.

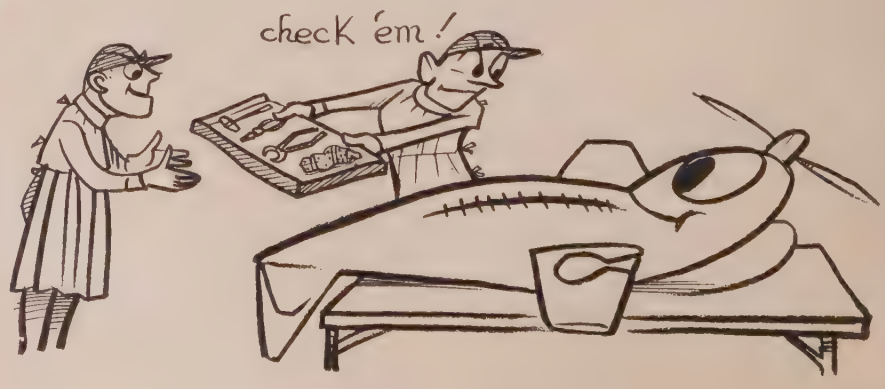
Be sure all plugs and masking tape are removed from open lines before re-connecting.

Check that all connections are properly seated and tight.

See that all cotter keys and safety wires are in place.

When you finish a job, make a thorough search to be sure you haven't left any tools, nuts, bolts or rags lying around. In the first place, never scatter such things. Use trays—as all good mechs and doctors do.

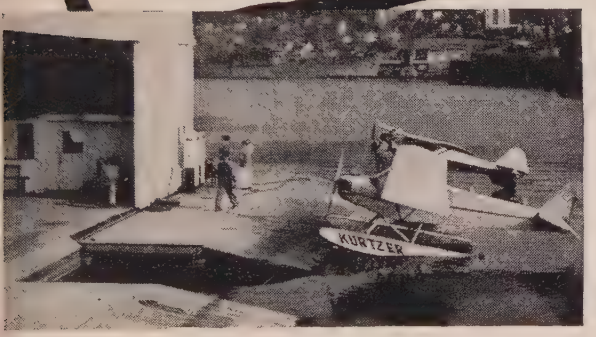
Don't ever consider an overhaul job finished until you can say, "I'd be willing to fly that plane myself!"



$10,000 GROSS A MONTH FROM *Floats*

"Our base is still expanding, but right now we gross over $10,000 a month from operations and flight training. We concentrate on seaplanes alone, and offer no other sports such as boating or swimming. There is enough float business in sight to justify doubling our base and we expect floatplane sales to show a steady increase."

—LANA R. KURTZER,
Kurtzer Flying Service, Seattle, Washington



The gap shown here between hangar floats is location of submerged hydraulic hoist. Two men can hangar a plane in less than a minute. Personal planes account for 95 percent of flights, with over a thousand hours logged per month.

The Kurtzer base is surrounded by all of Seattle's population. Operations are carried on safely in midst of deep-water shipping. Famous hunting and fishing grounds of Oregon, Washington and British Columbia are within flying range.

ONE OF THE finest float bases in the nation is operated by the Kurtzer Flying Service right in the center of Seattle. Built on piling in ice-free Lake Union, which forms this seaport, the base operates the year round. A hangar houses eight floatplanes, an operations office, pilots' lounge and class room. A dozen planes can be handled at once on ramps outside. A hydraulic hoist lifts a plane from water to hangar floor in 15 seconds. A new shop is being added. Present work will nearly double the original set-up.

PATTERN FOR A MAJOR LEAGUE BASE

This is a big league base. It shows the dollar volume from floats when a firm offers the flying public complete sales and service from a modern, highly efficient base. It is not, of course, for seasonal operators. But it is an ideal pattern for study by operators in all major cities. It proves that floats can build a *major* business for you. All but two of major U. S. cities are on water. Yet many of them have no floatbases. If you can't afford a base of the Kurtzer type, start with simple facilities and a good plan for expansion. The growth will come, if you concentrate on selling float flying and all its sidelines.

RESERVE YOUR COPY NOW of the Edo Air Harbor Data book. Now being printed, it gives detailed specifications for bases, floats, ramps, hoists, all other float equipment. Write to Edo at address below.

Edo FLOATS
FOR REAL FUN IN FLYING

EDO AIRCRAFT CORPORATION
210 Second Avenue, College Point, Long Island, N. Y.

Once Every Hundred

(Continued from page 32)

Engineering and Research Corp. plant just what goes on under the cowling of the trim little ship.

Bob Meyer said that we were welcome to poke our noses into anything we wanted and sent us out to the chief mechanic, Julie "Unk" Schaffer who, with four other mechanics, takes care of all Skyservice maintenance.

Instead of using one plane as the guinea pig "Unk" suggested that we go over a group of planes in average condition to better illustrate the kind of specific troubles a smart crew points for when it pulls an inspection. We took pictures and asked questions and "Unk" volunteered additional information, using extra parts from the stockroom shelves to serve as examples. When we were finished we had a very high respect for the mechanical knowledge of this big, quiet-talking fellow who had the answer for every puzzler we threw at him.

We decided to start at the prop and work back on each plane, stressing trouble points rather than rigidly following CAA Form ACA 319, the "Periodic Aircraft Inspection Report," most of which is self-explanatory and makes swell reading matter to go with this survey (in other words: read it.). We didn't try to cover every assembly, so what follows includes only the high spots.

One important caution has to be remembered before the inspection proceeds. *Any troubles pointed up in the following paragraphs are apt to be found on any personal plane,* not the *Ercoupe* alone, and none of the troubles listed is intended as criticism of *Ercoupe* engineering practices which, like those of any other manufacturer, are pointed toward the continual improvement of his products. But since there is always room for more improvement a frank discussion can lead the way for better planes and superior maintenance procedure.

On with the inspection. Of course, before any plane is brought in for a shakedown it is given a final run-up on the ramp to check for assorted engine troubles such as mag drop, carburetor difficulties and other possibilities.

In the shop the propeller and engine cowling are pulled and checked for cracks and defects. On wood props the first item mechanics look for is looseness of the metal tip sheath and the cover fabric adjoining and under it. Even when the sheath rivets are tight, the metal edge sometimes chafes through the fabric cover and after that it begins to peel back.

The front engine cowling on the *Ercoupe* is not made for easy maintenance of the engine, condition that also exists on other light planes, and if a mechanic only wanted to change the spark plugs during routine line maintenance he would have to pull both prop and cowl to get at the front plugs, but the single-formed piece makes for a much stronger construction so separated halves are out. This means very little during the periodic since the cowl has to come off anyway.

On the 75-hp Continental engine that powers the *Ercoupe* the prevalent trouble is one that hasn't been wholly licked on even the biggest conventional power plants: leaking rocker box covers and loose intake connections. The intakes are fastened to the cylinder studs with hex nuts safetied by palnuts, but engine vibration loosens them after a time and they have to be retightened at every inspection. Rocker box covers are held on by drill-head screws which invite overtightening to stop oil leaks, a process which usually accomplishes the reverse. Screws should be tightened evenly around the cover and cover edges tapped down with a leather mallet to correct rising between screw holes. Some Titeseal applied before assembly to the cover-to-cylinder surface will assure an oil-tight joining, a desirable condition.

The left side of the engine just forward of the left magneto has a triangular plate covering an opening for an oil-cooler installation used on some planes. The story here is the same as for the intake connections; the hex and pelnut loosen and oil leaks result. Check and tighten when oil shows.

Moving down below the engine, the oil tank can be a trouble maker, as in most other planes, especially if carelessly leaned on. The latter process invites cracks around the mounting flange and also near the weld at the base of the filler neck. The light construction, necessary as a weight saver, makes it susceptible to vibration cracking, usually at the welding joints. Overzealous tightening of the bottom drain plug can cause the same condition. And let me repeat again here—*all this is not limited to the Ercoupe!*

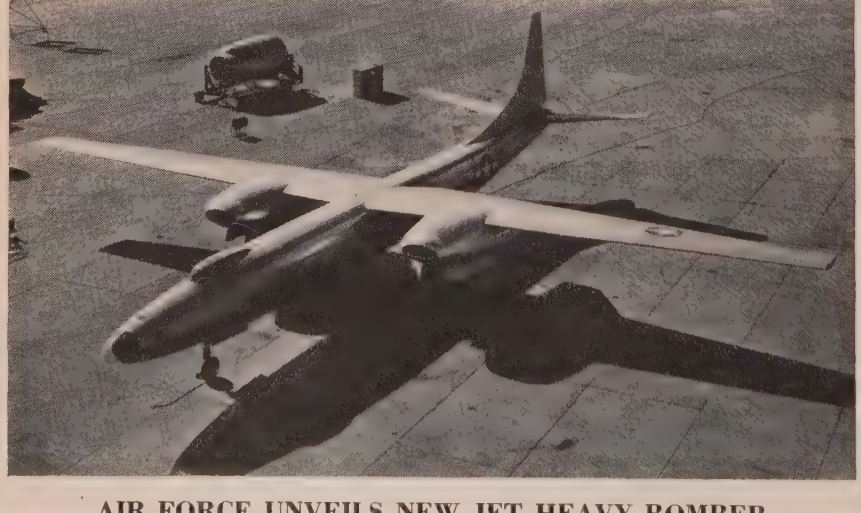
The exhaust system and carburetor and cabin-heater system and muffler are usually open to troubles common to installations where heat expansion and contraction causes cracks and erosion, but the *Ercoupe* installation holds up extremely well. A clamp holding the heater muff just forward of the firewall is fastened by a bolt and wing nut, but after prolonged operation the nut freezes to the bolt and cutting the bolt becomes necessary to remove the clamp so the muffler can be checked. According to *Ercoupe* representatives, stainless-steel hardware is being employed in many engine installations, now that material shortages have been broken, and that should go far to correct difficulties.

As far as the rest of the engine installation is concerned, the *Ercoupe* hose connections are tight and, as long as clamps are not abused, they stay in excellent condition. Firewall connectors are easy to get at for engine changes and instrument checks. The fuel system causes little ordinary trouble and is simple to check. The throttle linkage on some planes rubs the oil tank in the full-closed position, but judiciously applied tape prevents wear. Until squawks from plane owners force all lightplane manufacturers to use fully-shielded ignition systems, there is no reason to expect an end of radio static and interference, but otherwise the *Ercoupe* system is trouble free and the Eiseman mags are easily maintained. Although the fuel tanks don't belong to the engine category it is worth noting that both wing and fuselage tanks are now being fabricated of aluminum in place of the former terne plate assemblies which were not heavy enough.

Skipping to the landing gear because it poses some interesting problems, the first spot is the much-discussed nose gear installation. This requires disassembly and a close 100-hour inspection of the outer strut cylinder bronze bushings after disassembly. These bushings usually need replacement after 100 to 125 hours of operation. Formerly the bushings required a factory overhaul, but new screw-in bushings which have been field-tested are being installed on the production line and can now be replaced easily. The use of comparatively soft bronze is necessary because of the hard use a nose strut receives, and tougher metal would only result in deep scoring of the inner cylinder and subsequently defective operation.

The linkage found on any air-oil landing gear, or other shock-absorber types, requires a check for looseness caused by worn bolts or elongated bolt holes. Bolts must be kept tight to prevent these conditions which will occur on any carelessly maintained linkage.

(Continued on page 78)



AIR FORCE UNVEILS NEW JET HEAVY BOMBER

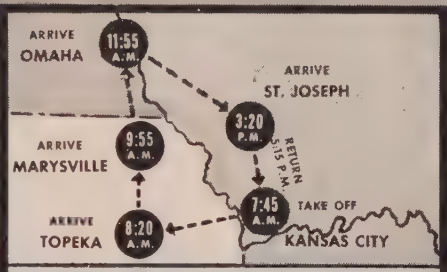
MULTI-JET BOMBER XB-46 built by Consolidated Vultee Aircraft (San Diego) is undergoing preliminary ground tests. Power is supplied by four General Electric TG-180 (or J-35) through-flow turbojets with axial-compressor located in two low-slung nacelles. Total thrust is 16,000 lbs., or 20,000 hp at 500 mph. North American's XB-45 is similar type.

Double the selling time *Half* the travel time with the plane that gives

More for your Money!

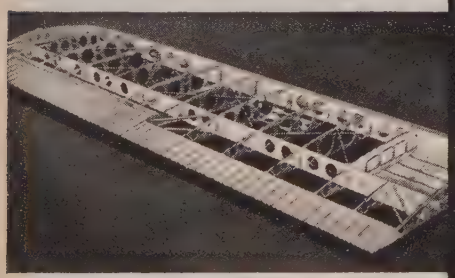
Here's a salesman who has doubled his effective selling time. He covers 350 to 500 miles a day—sells 4 or 5 customers in as many different cities—and still gets home at night!

He does it winter and summer—in safety and comfort. He flies a Cessna 140 You can increase your selling efficiency with a Cessna 140. This roomy, 2-place plane has a range of 450 miles on 25 gallons of fuel . . . a service ceiling of 15,500 feet . . . a top speed of over 120 m. p. h. Yet it delivers for only $3245.00 (f. o. b. Wichita).



Typical Trip—382 miles, 4 successful selling stops, 3 hrs. 45 min. actual flying time. Two morning calls—lunch with customer in Omaha—a stop at St. Joe—home for dinner, 6 P. M.

You're Safer on More Fields: Cessna's patented, maintenance-free, safety landing gear makes take offs and landings easier—helps smooth bumps—actually combats ground looping tendencies.



Minimum Maintenance: Cessna's all-metal construction is impervious to damp or dry climates. Your Cessna is built to give you greater safety and greater performance for a longer time.

Carry 80 lbs. of Luggage with you. Brief cases and samples as well as your own suitcase. In fact, two people can each carry as much luggage as the airlines allow without extra charge.

There's Extra Luxury in Cessna's new interior . . . extra comfort, too. New foam-rubber seats. New rainproof directional ventilation system. Cabin heater can easily be installed for winter comfort.

8 REASONS WHY OPERATORS REPORT INCREASED PROFITS WITH THE CESSNA 120

1947 CESSNA 120

Increased Profits with the Cessna 120

Same size, range, speed, all-metal construction as the 140, but has less luxurious interior trim and is not equipped with starter, battery, generator, flaps. Only $2695.00 (f. o. b. Wichita).

1 Profitable student instruction can be carried on in winds at least 10 m. p. h. higher than those that ground other light planes.

2 At training R. P. M.'s, gasoline consumption with 85 h. p. compares favorably with that of 65 h. p. trainers.

3 Students prefer this fast, side-by side plane of all-metal structure. You'll have more students more hours per week.

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Week-End Wing-Ding

(Continued from page 34)

we rushed to the airport to make arrangements for our first *real* flying week-end.

Ted Hebert was the man in charge and we found him somewhat shaken by the enormity of being one of the first to own an amphibian designed to fit the purse and needs of the common man.

The rates, we learned, compare favorably with those of Drive-Ur-Self automobile agencies. In fact, Ted's deluxe *Seabee*, complete with reversible prop, was rented for 22 cents per mile—the same rate auto rental agencies charge for a $2,000 Buick. This, Ted explained, covered insurance, gasoline, oil and storage.

To rent an amphibian, however, the flyer must have a water rating and must take a check ride with a Safair pilot to prove his ability on land and water. Our old friend, Bill Hunt, test pilot and erstwhile seaplane-base operator, filled this need admirably. And, to complete the party, Roy Battersby, former UP photographer, came along to see how effective his Speed Graphic would be in the air.

We planned to fly over the Poconos, through Delaware Water Gap, and out to lakes which crown the Poconos.

Our hopes of doing a little fishing at Lake Hopatcong and Greenwood Lake were dashed when we learned that, due to an old law enacted in the dark days when flying was considered hazardous, fresh water bodies in New Jersey are closed to airplanes. However, the State's aviation experts plan to run a series of safety tests this summer, and it is hoped that New Jersey's many beautiful lakes will soon be made available to the private pilot.

Most states have regulations covering aircraft operation on inland waters, prohibiting landings on reservoirs and lakes situated close to large cities, but generally the pilot can take his pick and sit down wherever he chooses.

Aeronautical week-ends bring distant vacation lands so close to home that the sportsman flyer will be obliged to obtain licenses to hunt and fish from four or more states surrounding his home airpark. This becomes a definite requisite when you take into consideration the fact that the wise pilot always works out a few alternate flight plans. If weather had kept us out of the Poconos, we would have flown up to Connecticut and Massachusetts or up to New York's Finger Lakes.

Inasmuch as we were four in party, the weight problem arose. Little private planes can't be loaded like a beer truck and the more human flesh you cart along, the less gasoline and baggage you can bring. The more weight, the less range.

Compromising on an initial load of 40 gallons of gasoline, each of us was alloted a maximum of 15 pounds for baggage.

Eunie did the most efficient job, as usual, acquiring a three-piece sports outfit made by Sun-Surf Modes, which consisted of a skirt, a pair of slacks and a belted tunic, giving her a versatile costume adaptable for fishing, tennis, golf, going to church or having Sunday dinner in the heart of Pocono Pines.

Odds and ends were carried in a gaily-striped waterproof bag which she carried on a shoulder strap.

The men chose makeshift outfits of favorite old clothing—strong enough to withstand the rigors of hunting, warm enough to combat the cool of a mountain evening and neat enough for a barn dance or a hayride. Extra shoes, shirts, fishing gear, guns, sleeping bags, a picnic lunch, a few golf clubs and camera and case completed the load.

Flashing silver, striped with forest green, the *Seabee* climbed rapidly, leaving Teterboro to blend in with the late Fall colors of the Jersey Meadows. Gear pumped up and trimmed for level flight, we headed for Lake Wallenpaupak, about 100 miles northwest of New York City.

In the rear seat, Roy and I relaxed on the green leather cushions, watching the ever-changing kaliedoscopic patterns formed by New Jersey's townships and countrysides. Then, to our right, we saw Greenwood Lake, long and narrow, its smooth blue water a tempting invitation to a water landing.

Ahead of us, the highlands erected themselves, poking derisive thermals at us as we passed swiftly overhead. Sweeping out over the Poconos in Pennsylvania, we found their summits windowed with scores of isolated lakes, upon any one of which we might have landed. Trees growing thick against the rocky shorelines and an absence of rafts or docks in most of them, would give us no chance to deplane, although we might have fished to our hearts' content.

The difficulty in choosing a destination adequate to our needs lay in the fact that our trip was, more or less, on a pioneering basis. We could have gone to Skytop, where plane loads of vacationers and week-enders are hopped from LaGuardia Field. It would be ideal for a Saturday night dance or for a base of operations, had we made the necessary arrangements.

But we wanted an isolated lake, with a raft or dock or sandy beach. So, we flew on, circling promising candidates in an effort to ferret out whatever dangers lay beneath their surfaces. Finally we found one, dense trees hugging the irregular shore and many parts of it dotted with dangerous tree stumps and rocks. But there was a good-sized float cabled to the shore and about 1,000 feet of clear water between it and the opposite shore, conveniently marked with white buoys.

Landing at about 60 mph, you get a thrill far more exhilarating than any received from most motorboats. As we raced towards the shore, Bill Hunt turned the plane on a dime and glided back to the float which now was occupied by three men. They held the wing for us until we drew close enough to deplane. By the time the four of us managed to climb out of the plane, the "virgin forest" had produced a welcoming committee of nearly 20, one of whom was wearing a welder's mask. This was Lake Naomi, they said, not far from Lutherland and the village of Pocono Pines.

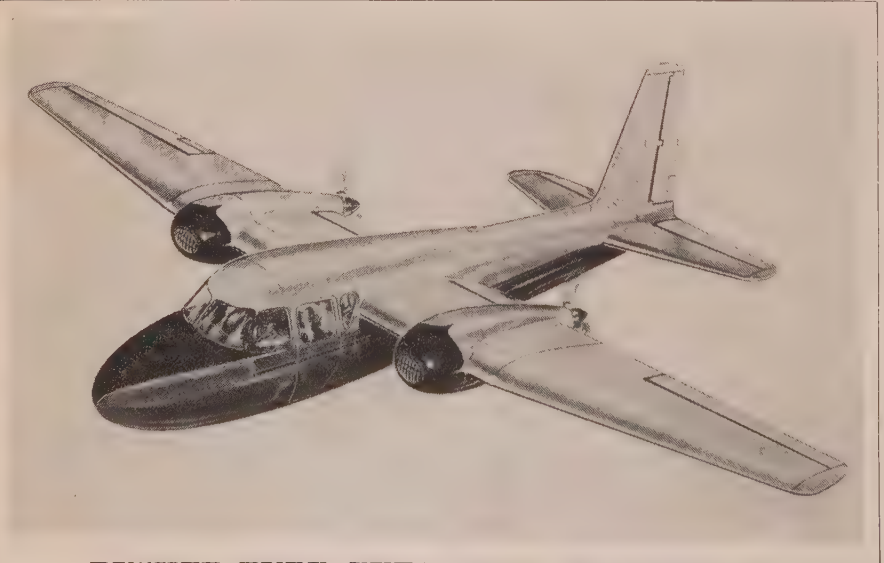
When the welcoming committee told us plenty of pickerel and sun bass were yearning for the frying pan, Eunie and Bill taxied off to try their luck with rod and reel. Meanwhile, Roy and I decided to try our luck as hunters.

Not being particularly anxious to grace our luncheon cloth, whatever game abounds in Lake Naomi's surrounding woodlands took care to escape our attention, although we could hear something effecting a strategic retreat every now and then.

Defeated, but unbowed, we returned to the raft to find the others still trying to tempt a pickerel or sun bass. One line had been snagged, ripping the rod's end ring out of its yoke. With our luck at low ebb and our hungry stomachs clamoring for justice, we decided to shoot a few pictures of the plane in action and then find ourselves another lake.

After a quick lunch and refueling at Stroudsburg, we flew down through Dela-

(Continued to page 94)



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Canada via Cub

(*Continued from page 37*)

easy take-off—the skies were hazy one minute, definitely overcast the next. Fortunately, however (and I say "fortunately" 'cause the family reported they couldn't have stood us around the house another day!) soon after we'd reached the base and packed things into the *Cub*, Ole Sol gave us the go-ahead.

To say the ship was loaded is gross understatement. We'd even packed things (small items) inside the pontoons, not to mention the various and sundry objects fastened down on all available cockpit floor space. But we weren't too badly overloaded and so got away in fine shape.

Our air route (via radio beam over Lake Erie and a filed flight plan so that in an emergency the Coast Guard could pick us up) took us across Michigan and Wisconsin to Duluth, Minnesota. It was at Duluth that we checked ourselves and our equipment out of the U.S. We put in there at a seaplane base, then went into town to sign an affidavit. I guess the U.S. Customs officials there were allergic to water . . . they wouldn't come out to check us at the base; we had to go to them.

The Canadian officials were a little more friendly. While they weren't down at the base at Fort Francis, Ontario, our first stop in Canada and a port of entry, they did come down after we phoned them. The whole business, including a six week's permit to stay in Canada, cost us only $1, and that was the agent's taxi fare from his office.

It wasn't until we put in at Lac du Bonnet, 75 miles north of Winnipeg and the air harbor for all planes operating to the north, that Rod and I began to feel we were covering new ground. Taxiing up to the ramp, we had to keep our eyes on a team of horses standing on the end of the dock. It seems that this ramp is not only the docking place for aircraft but it is also the favorite watering place for horses.

Hopping out of our little puddlejumper, we were welcomed to Manitoba by a short stocky Scotchman known only as "Sammy." Almost before we realized it, he had us over under the wing of a big Bellanca talking to a friend, Wally Collin. These two gave us the whole story on the bush country and also listed for us the gasoline stops between Lac du Bonnet and the Northwest Territories.

When we finally took off again and were flying over the large shallow lakes of Manitoba, we realized the info the bush pilots had given us wasn't far wrong. The lakes were a solid mass of weeds, shoals and what they'd called "light spots." I don't exactly know what those "light spots" were, but I do know that we heeded their warnings to make no emergency landings in their vicinity.

About an hour after we left Lac du Bonnet I had to land the *Cub* and refuel her. The 12-gallon tank in the J-3 didn't allow us enough range to make the 200-mile hop non-stop to the next town, Winnipegosis. I picked out a clear spot in the middle of a lake and set the *Cub* down. It was an easy matter to get out on the pontoon and pour gas into the tank while the ship rested on the calm water. But the calm water wasn't calm for long. Shortly after taking off, a stiff headwind began to blow and in no time at all, as we had been warned, the water below us was kicking up. That headwind caused a little more trouble than I'd bargained for, however. It reduced our speed so that just this side of Winnepegosis, I had to come down again to refuel.

Coming in close to the water to look it over as an emergency landing spot, I wasn't at all happy to see the choppy swells. Gasoline being what it is, however, I hadn't much choice but to land . . . and hope. I got in all right, but . . . sometime you try refueling a *Cub's* tank when the ship is bobbing around like the proverbial cork! A couple of times I thought sure she was going to go right over on her back. Rod was able to hold her into the wind and that probably did the trick.

I thought of taxiing into shore and waiting for calmer water, but finally decided to have a go at getting out. I opened the throttle, held back on the stick to keep the pontoons from banging into the waves, and off we got. The J-3 took off tail low and in a helluva hurry. But it wasn't too quickly for me . . . and a glance at Rod indicated it hadn't been too quickly for him either. Having enough gasoline in the ship, we skipped a planned landing at Winnipegosis and went on to The Pas.

Just before The Pas was spotted, I noticed something big swimming in the water beneath us. I started down to see what it was but by the time I got there the big thing had reached shore and disappeared in the woods. When I mentioned it to a bush pilot at The Pas, he said it was probably a big moose. They have a lot of them up there in that country and you can spot several during a single trip over those waters. I don't know when the hunting season is open for moose, but when it is it ought to be a cinch to fly up there and bag your limit anytime. Only problem would be getting the thing out. But I guess that, too, could be answered if you really wanted to go on an aerial hunting trip.

We were crossing Saskatchewan a day or so later when I got the urge to do some fishing. Below was a mass of lakes and bays, irregular in shape, called Deshambault Lake. According to our maps it was about 60 miles from the nearest habitation of any kind. A spot like that ought to produce fish, says I, and so down we went. Rod got out the tackle, etc., while I brought the plane in and taxied over to a virgin island. Everything seemed so quiet in that great untouched and beautiful country of thick birch and spruce trees, granite shorelines, and dark water.

But about 20 minutes after I'd cut the J-3's engine, we heard the familiar putt-putt of an outboard motor. It was an Indian in a small boat. He headed toward the shore near us, pulled his boat up a little, then wandered over . . . and just smiled. We offered him a cigarette, which he accepted, then tried to carry on a conversation with him. And still he just smiled. The only intelligible word I got out of him was after I asked what kind of fish were in the water. He replied "Yellows" . . . and smiled some more.

Rod and I fished for awhile and the Indian finally left . . . as quietly as he'd come. And what fishing waters Canada has! We caught jack fish, a couple of wall-eyed pike and even a muski. Believe me, if its good fishing you want and you own a plane, Rod and I can personally guarantee that the waters into which you bring your seaplane on a trip in that country will produce as many fish as you want to stay and catch. We couldn't possibly eat all that we could have caught, so we kept just a couple and threw the others back . . . for somebody else to catch. And on our way we went.

En route toward Fort McMurray two days later, we suddenly realized we weren't going to make that metropolis of 300 people before nightfall. I hurriedly checked the maps again and decided to try to make a Hudson Bay Post about 30 miles ahead and on the east side of Methy Lake. The trees already were casting long, dark shadows over the water and the sun was fast disappearing below the horizon. I'll have to confess that for awhile the only thoughts both Rod and I had were of a night in the bush, mosquito dope and sleeping under the tarpaulin. As the minutes wore on the tarpaulin became smaller, the mosquitoes bigger and the bush thicker. Rod jolted me out of this thinking, however, by screaming land-ho and pointing. There off our nose and to the left was a long narrow dock stretching out from shore. I headed for it in a hurry. But with the sky almost dark and the water a glassy calm, I couldn't tell exactly where the surface of the water was. Trying to judge our height by the shoreline instead of the water, I brought the J-3 in with a bounce that would be called bad even for the beginning-est beginner. But we were down anyway.

As I cut the engine and we floated toward shore, a stream of Indians came running out on the primitive spruce dock. As we floated closer to them we could hear strange gutteral mutterings that didn't somehow appeal much to Rod. He turned around and with a look of strong doubt as to the wisdom of our being there, asked, "Gee . . . are they savages?" I laughed . . . though weakly . . . and climbed out on the dock. Making motions as clear as I could, I managed to get them to understand that I wanted help in pushing the plane toward shore. That was the fastest ride that plane ever got!

Finally convinced that the Indians were friendly, Rod piled out of the *Cub*, too. Then the first white person we'd seen in a couple of days appeared. He was a young English chap . . . and a most welcome sight to see. He introduced himself as "Al," of the Hudson Bay store, and took us up to the home of the Hudson Bay Post manager. We hadn't

(*Continued on page 76*)

Canada via Cub

(*Continued from page 74*)

seen the house from the air and it seemed strange to both of us that way out there in northern wilderness there should be such a nicely furnished, almost city-type house. The Post manager, another Scotchman, had spent many years in the North. While he told us stories of his experiences in this north country, his wife, an Eskimo, put a spread of sandwiches on the table for us. His post, consisting of about 200 Indians and just five white people, received the mail about once a month. This was their only contact with outside civilization. You can judge from that how welcome they made us and how pleased they were to have someone new to talk to.

Over the north country again, we saw many irregular lakes below us, and they all looked the same. On careful inspection, however, each lake took on an individual shape and a particular relation to the others. Looking ahead, the nose of the plane might be pointed toward the middle of Egg Lake, and then cut the right shoreline of Kashishibog Lake straight ahead. Many of the lakes did not have names so were referred to by any word that came to mind.

As for the compass, we seldom had time to look at it. Once we asked a bush pilot about the compass course to a certain place. He remarked, "I wouldn't know how to figure it out." The northern pilot uses just his maps and his knowledge of the country.

Of course, there are exceptions to everything. Some faith was lost in the map the day we found ourselves cruising over what our map called "lakes." Instead of "lakes" we found patches of red, purple, and yellow swamp. The lakes, it seems, had dried up! We tried in vain to identify these patches, in the meantime not knowing exactly where we were. Finally through the binoculars Rod spotted far distant Lake Athabasca, our destination, and that helped us get oriented.

Engine trouble finally struck at the town of McMurray (Alberta). I was checking the plane prior to take off, when I heard a whistling sound every fourth time the prop was pulled through. A mechanic went to work on the engine and found a bad cylinder. Luckily McMurray is on an air route out of Edmonton, so we had a new set of cylinder-head gaskets sent air express. It only took two days to reach us. But then trouble struck again. While we were assembling the engine, one of the air intake tubings dropped into the river. No such part could be found in town and for a time I thought we were permanently stranded. Then an idea came to me—I offered a reward of one dollar for its recovery. A lot of anxious swimmers tried but it was a young girl who finally got it.

The first "weather" incident occurred after we took off from the river south of Great Slave Lake to cross this large island-studded body of water (larger than Lake Erie) en route to Yellowknife on the north shore. We had a full tank of gas and 110 miles to go. After getting out over the lake I noticed what looked like clouds covering the sky to the north. I didn't notice any lightning, yet the clouds were dark and solid. As we approached, visibility started to go down, but there was no turbulence. Finally over Caribou Island I smelled burning wood and realized that the "cloud" was forest fire smoke that covered the entire area. Visibility got down to a mile or less. We were now following the shoreline of Great Slave so could afford to fly low without getting lost. Then a strong north wind came up and the ground speed went from 60 mph to about 30. As the gas gauge hit empty, we weren't even up to Yellowknife Bay. At this point poor visibility became a minor worry. Looking below, the country was all rock and water. This barren-like terrain certainly made gruesome the thought of having to spend a night there. Throttling back to conserve gas, we plugged on, expecting to hear the engine conk out any minute. Dame Fortune smiled on us, however, and we were able to reach the edge of the town of Yellowknife.

Yellowknife, N.W.T., is just a scramble of tents and huts spread out all over the rocks. The highest point had a wind sock on it. When awakening in the morning, all you could hear was the roar of seaplanes and the howling of sled dogs. Airplanes are tied up to almost every dock. In this far northern town where air transportation is the only way to get around, a *Norseman* can be chartered for about $70 an hour and a T-craft for $25.

The town was full of bearded prospectors, young mining engineers, mine operators, and slack-garbed women. One waitress, with whom we talked, lived in a tent with a wooden floor base and no windows. The walls were covered with magazine pictures. If a girl in this northern town is out of a job for more than three days the Mounted Police send her outside to civilization.

The return trip included crossing northern Ontario to Sault Ste. Marie. We dropped into Minaki Lodge for lunch one day. This is a resort hotel run by the Canadian National Railroad in the Lake of the Woods district. Here was located a golf course, tennis courts, elaborate bungalows and a fine dining room. There was an insurance convention going on at the time and the place was littered with 500 women, so we didn't stay.

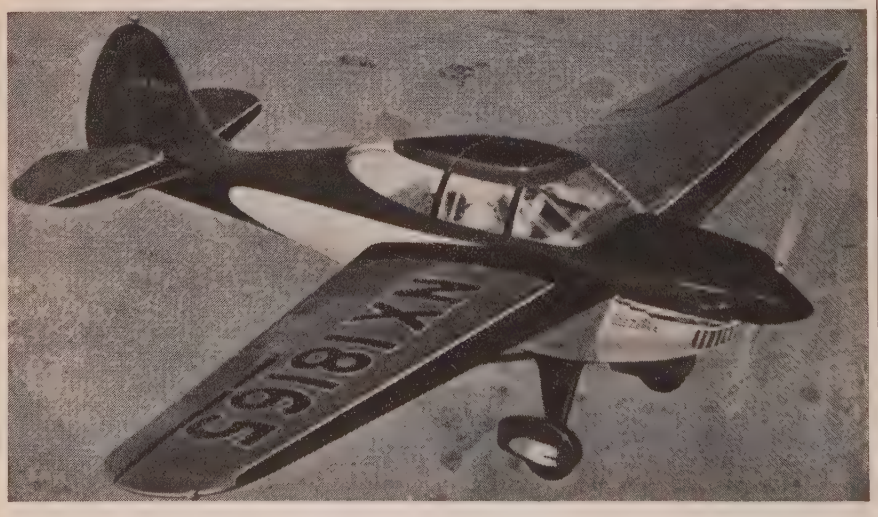
The only near-accident of the trip occurred while on a side trip from a famous fishing camp near Sioux Lookout, Ontario. We left the plane at the mouth of a river which was supposed to have great bass fishing about five miles upstream below a falls. Finding it difficult to walk through the bush due to thickness of the trees and occasionally sinking knee deep in the muskeg, I decided to go back, get the aircraft, and taxi up to where Rod was standing on the bank. On the way I heard a thud and the right pontoon went up, out of the water, and down again. It had hit a "dead head," a submerged log, and I thought sure there must be a leak. In a panic I raced on to where Rod stood, the wing almost hitting a tree on shore. I wanted to get Rod in and take off while it was still possible. However, Rod suggested tilting the plane back and bringing the pontoon up over a fallen tree for an inspection. It turned out that only the wooden strip on the side was damaged. There was no leak at all.

Regarding plans for rescue in case of a forced landing, on all flights away from civilization, we filed a flight plan either with the Department of Transport or Royal Canadian Signals. One or the other organization had radio stations at many remote places. We would file the flight plan by the days rather than the number of hours to a destination.

The World Aeronautical charts that we used were good, but if you're planning a similar trip and there's time to write to Ottawa for 8-mile maps it would be better. One person we heard about at Kenora was on his way across Canada with but one map, the map of Canada!

Eighty octane aviation fuel was available at most any place the bush airlines operate from. Other spots at which Imperial Oil was located always had at least 76 octane ethyl gasoline. Naphtha was stored at every remote Hudson Bay Post for use in oil lamps. This will do for gas in an emergency as it is high test. Gasoline cost 30 to 50 cents a gallon.

The entire trip cost us about $600 for seven weeks in Canada—and believe you me we enjoyed it. I came back a more seasoned pilot than when I left. Yes, it was worth that $600 and even more. If I ever want to go fishing. I know of a dozen perfect places—and maybe this next summer I'll become an Izaak Walton.



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Once Every Hundred

(Continued from page 70)

Filling the main gear oleos on the *Ercoupe* can be an awkward proposition. The fairling and the rubber bumper limit-stop on the gear arm have to be removed before the cylinder can be extended to its full position to open the internal port and allow fluid to enter the cylinder. The good feature is that the struts are sturdy and the extra trouble is worth it when you have a good shock absorbing gear—which the *Ercoupe* most assuredly has.

All gear components have to be closely checked for stress cracks which may be the result of many hard landings or continual crosswind landing operations that are not properly carried out. Landing a ship in a crabbed position exerts strain on a gear.

Going to the fixed surfaces, which includes cowling, fuselage, stabilizers and wings, metal surfaces on all types of planes require a close inspection for sprung rivets, wrinkles which are evidence of strain or "tin-canning", and loose bolts where major component connections are made. Fabric covering on the outer-wing panels requires a more than casual check for holes, scratches and loose pinked-edge tape at seams.

Ercoupe sheet-metal work looks clean and competent, and defects that come to light at inspections are usually the result of careless operation or ground handling. Dents in surfaces—and especially around the forward wing fillets — should be corrected as soon as found because they can cause radical changes in flight attitudes and speeds.

The twin-control *Ercoupe* gets its dependable flight characteristics from close tolerance engineering, and changes caused by sloppy owner care result in lower effciency and rising flight costs.

The movable surfaces—ailerons, elevator and rudders—are prospective trouble points on any airplane, since they are always working in flight no matter how straight and level a pilot may think he is flying. The crucial inspection points are at the hinges, whether they utilize the piano-wire-type or clevis pins. Continued abrasion wears down any metal despite lubrication, and the check point on the *Ercoupe* hinges is at the peened ends of the heavy wire pins to make sure that they are not worn after long operation. Clevis bolts used on airplane hinges have to be checked for looseness, a sure indication that hidden wear is taking place and that the bolts should be replaced with new ones.

Control surface adjustments on the *Ercoupe* are made primarily at the main bell crank assembly under the luggage compartment. This is easily reached for work by removing the pilot's seat assembly. One important check is on the alignment of the steerable nosewheel and the interconnected ailerons. A taxi test is suggested for a combination shimmy and aileron-and-nose-wheel neutral check, although controls may be adjusted satisfactorily in a hangar. The combination push-pull rod and cable control system causes very little trouble but adjustments should be made only by mechanics who are experienced on the ERCO *Ercoupe.*

The battery box is to the right of the control assembly, but its buried position under the luggage compartment makes routine servicing every 25 hours a ticklish proposition, even through the zippered opening back of the pilot's seat.

Aside from lubrication, those are the high spots of what a mechanic looks for when he pulls a 100-hour periodic on the *Ercoupe* and other lightplanes with similar assemblies. Following the manufacturer's instructions as to intervals and lubricants is the only lubrication required for keeping the equipment in top shape.

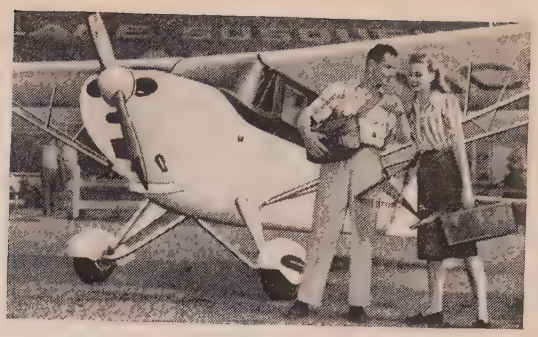
There are many other features of a periodic which are part of the general routine in the course of an inspection on any plane. *It is very important to remember that the troubles mentioned in this survey may appear on only a few of many hundreds of Ercoupes, but a mechanic has to know where to look for difficulties and any that may crop up on one plane should be looked for on others. It is as vital for every pilot to understand that any airplane requires top maintenance and that mechanical troubles are not going to affect his flying safety as long as he follows the minimum requirements for intelligent care of both the plane and himself.*

The owner is responsible for compliance with all special technical bulletins which are issued from time to time by all manufacturers for their planes (mechanics check for these compliances on the periodic) and also for the special government (CAA) instructions affecting different types and models of aircraft and engines. A wise plane owner will keep in touch with the company that built his plane and will query them from time to time to make certain he has not missed getting a company bulletin. A letter to any airplane company will bring either an aircraft or engine manual by return mail, providing of course the writer is a plane owner entitled to the manual. Most engine companies, too, like the aircraft manufacturers, will send copies of their engine bulletins to those writing them requesting such. So be a wise plane owner and make certain you know *all* about your airplane. And if you have any questions regarding certain parts of your plane or engine, there isn't a mechanic on a field who won't be happy to answer those questions as best he can.

The general idea of this survey is not that airplanes have defects, but that even good planes have their sensitive spots and no machine will ever be that perfect that it will run without needing any maintenance. An awareness of necessary maintenance on your airplane will go far toward keeping your airplane in A-1 condition. In this case that ounce of preventive maintenance is worth one helluva lot more than a mere pound of cure. . . . . and no pound of cure was ever more costly than that caused by careless maintenance.

It is possible that the explanation of why periodics are required and what they cover will be enough for most pilots to justify the necessary cost of the 100-hour inspection. It allows you to have a carefree flight such as when the weather man reports: CAVU. It is in fact just a form of insurance that you won't have to visit both an airplane doctor and a medical man on some future day when something gives way in the air because it wasn't checked right on the ground—once every hundred.

This can be YOU sooner than you think



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Pay As You Fly

(*Continued from page 64*)

both operated by suction. Some Stinson dealers insist that *Voyager* performance from small fields and its fuel economy are such that the average pilot is not apt to gain as much with a controllable prop as on some of the lighter planes. Others, however, report that gains of 10 to 13 mph in cruising speed have been consistently achieved, while the constant speed feature of the Aeromatic has a very beneficial effect on engine wear and tear. Practically all are agreed that instrument flying should be more or less confined to pilots with definite instrument ratings (which are now becoming easier to get), and in general, to airplanes with more than one engine. (These remarks apply also to the *Bonanza* and *Navion*, both of which come with practically everything required, except the Gyro instrument panel, which is extra).

For $6,000 the Republic 1947 *Seabee* amphibian offers almost the last word in utility, and although a combination of circumstances hindered Fred Marchev from achieving his objective of mass-producing a four-place amphibian for less than $4,000, it is all to the good to have brought out a useful job at one-fifth of the cost of the super-duper *Widgeon*. Nearly $1,000 of the increased price of the 1947 model was on account of extra equipment which nearly everyone was specifying anyway, including Hartzell controllable-reversible prop, Hallicrafters CA-4 radio, and a cross country flight instrument panel, plus 82 engineering changes. Extras include Stewart Warner cabin heater ($150) landing lights, bilge pump, folding anchor and nylon rope ($33), a total of about $270. As the *Seabee* is beginning to get around, stories of its high degree of flexibility and utility are piling up.

After selling a few hundred airplanes at the original price of $6,100 with practically everybody wanting to add $1,000 to $1,500 worth of extra equipment, North American has come out with a new standard *Navion* with nearly everything in it anybody would want, at a new price of $7,750 F. A. F. This goes along with the philosophy of Walter Beech who has always said that when he produced an airplane in the personal category it would be complete and ready to fulfil an entirely useful purpose without having to buy a hatful of extras. So that's how the Beech 35 *Bonanza* is coming onto the personal plane market this spring, complete at $7,975, according to the current price quotation. A most impressive list of companies have already placed orders for it who are not prepared to buy a full-fledged twin-engine executive plane at $60,000 or so. Same goes for the *Navion*, with production of 15 a day, and the company well on the way toward completing its second thousand.

Costs on the various installations of the useful Ex-Cell-O direct fuel injection system on Continental engines and the Bendix Stromberg system for various engines below 250 hp are not available as yet, nor is the status of CAA approval definitely known. Tests are under way, and approval is expected on several installations this spring. Fuel injection was to have been standard equipment on the Culver V, and it is an important development to watch.

(*Continued on page 83*)

FINANCE CHART FOR PLANES AND EXTRAS

Plane	Cost	Down	Balance	Ins'ce	Finance	Ch'ge	Total	Monthly
Piper Cub Trainer (no extras)	$2,295	$765	$1,530*	$383	$1,913	$191	$2,104	$117*
Aeronca Champion	2,475	825	1,650*	410	2,060	206	2,266	126*
with extras (1)	2,674	891	1,783*	440	2,223	222	2,445	136*
Aeronca Chief	2,665	888	1,777*	438	2,215	221	2,436	135*
with extras (2)	3,344	1,115	2,229	721	2,950	295	3,245	135
Cessna 120	2,695	899	1,796*	443	2,239	224	2,463	137*
with extras (3)	3,029	1,009	2,020	657	2,677	268	2,945	122
Cessna 140	3,245	1,082	2,163	701	2,864	286	3,150	131
with extras (4)	3,834	1,278	2,556	818	3,374	337	3,712	154
Piper Super Cruiser	3,295	1,082	2,163	711	2,908	291	3,199	133
with extras (5)	3,875	1,292	2,583	827	3,410	341	3,751	156
E & R Co. Ercoupe	3,450	1,150	2,300	742	3,042	304	3,346	139
with extras (6)	3,747	1,249	2,498	801	3,299	330	3,629	151
Luscombe Silvaire	3,595	1,198	2,397	771	3,168	317	3,485	145
with extras (6)	3,865	1,288	2,577	825	3,402	340	3,742	156
Stinson Voyager	5,645	1,882	3,763	1,181	4,944	494	5,438	226
with extras (7)	6,219	2,073	4,146	1,296	5,442	544	5,986	249
Republic Seabee	6,000	2,000	4,000	1,252	5,252	525	5,777	241
with extras (8)	6,270	2,090	4,180	1,306	5,486	548	6,034	251
No. American Navion	7,750	2,583	5,167	1,602	6,769	677	7,446	310
with extras (9)	9,120	3,040	6,080	1,876	7,956	795	8,751	364
Beechcraft Bonanza with extras (10)	7,975	2,658	5,317	1,647	6,964	696	7,660	319

* 18-month basis (under $2,000); all others, 24-month plan

(1) Radio receiver, lights, fuel tank, parking brakes
(2) 2-way radio, adj. prop, lights
(3) 2-way radio, lights, heater
(4) 2-way radio, adj. prop, lights, heater, primary instruments
(5) Adj. prop, lights, primary instruments
(6) 2-way radio
(7) Adj. prop, primary instruments (gyro instrument panel $856, not included)
(8) Cabin heater, lights, bilge pump, fire ext., improved radio, anchor & rope
(9) Gyro instrument panel ($975 inst.), flare kit ($215), cabin heater ($180)
(10) Gyro instrument panel, parachute flare kit (cost approx. as for Navion)

Pilot's Report: Chum

(*Continued from page 62*)

is necessary for the maneuver he is performing. This means then that the interconnected rudder and ailerons of two-control aircraft of the *Chum* type are so well co-ordinated that very little slip or skid is produced in maneuvering the airplane. This, then, smashes the theory of those hangar pilots who wail "But you can't do smoothly co-ordinated maneuvers in a two-control airplane." As far as I am concerned this is just a lot of prop wash. I did as smooth a 720-degree turn, with the sensitive altimeter varying not more than 10 feet throughout, as I have ever done in conventional-control aircraft.

With but one exception, I didn't "feel" the need for rudder pressure in any of the maneuvers I performed, and therefore, the lack of this separate control did not bother me in the least. The one exception was when the airplane tended to wallow in rough air. You perhaps do not consciously realize how much you use your rudder to help maintain straight and level flight in rough air until you find it interconnected with the ailerons. Naturally any attempt to return the airplane to level flight with the ailerons also produces a co-ordinated rudder movement with the resulting tendency of the airplane to turn in the direction of the control movement. Whereas, with the conventional controls, the rudder and ailerons are co-ordinated to bring the airplane back to level flight without producing a turn, such as in the co-ordination-exercise maneuver where the airplane is rocked back and forth from bank to bank without producing a turn.

And if your objection to two-control airplanes has been because of restrictions of aerobatics, forget it. The only maneuvers that you can't perform in the *Chum* that you can perform in any other airplane of its horsepower are spins and rolls, and if you think so little of the light airplane you are flying that you try rolls in it, then you have no business flying in the first place. You can do Chandelles, lazy-8's and loops. That is a good enough repertoire for any light airplane.

Coming back into the traffic pattern I cut the gun and held her down to between 60 and 65 mph in the glide, figuring that if 65 mph were the best rate of climb then the optimum glide would be slightly under that.

"You are coming in too slowly," Lou said. "You should glide at about 70 mph."

"You can jam your brakes on hard as soon as you touch the ground," Lou said. "It won't hurt anything."

I judged my glide so as to just clear the trees at 70 mph, flared out 150 feet or so from their base, slapped my wheels on the ground and jammed on the brakes, skidding to a stop straight ahead on the damp grass, less than 150 yards from the base of the trees.

An outstanding feature of the *Chum* will be its step-on starter control. It is a pedal-type engaging lever and switch, which will have a spring disengage. This is a new feature, as heretofore aircraft starters have required manual engagement and disengagement. The starter pedal will protrude through the fire wall behind and above the brake pedal, similar to some automobile types of starter pedals.

The cabin ventilation system is also unique. There is a draftless type ventilator scoop in the cabin roof over the baggage compartment, which scoops in fresh air and sends it forward along the underside of the roof and down across the windshield from where it circulates back into the cabin without a draft. Then there is a draftless ventilator in the left door window, and a pair of ventilators forward of the doors. A cabin heater which operates off both mufflers of the engine is provided.

The engine is the Continental 85-hp fuel-injection type, and cabin noise is further reduced by the use of dual, stainless steel mufflers into which have gone extensive research and for which lasting durability is claimed. The landing gear oleos are the new Firestone steel, rubber, air, shock-strut type.

Detailed specifications of the new Aeronca *Chum* are as follows:

Cruising speed	108 mph.
Landing speed	49 mph.
Rate of climb, first min.	610 fpm.
Service ceiling	11,000 ft.
Cruising range	400 mi.
Fuel consumption at cruising	5.6 gal hr
Fuel capacity, gas	22 gal.
Fuel capacity, oil	5 qt.
Baggage	60 lbs.
Span	28 ft. 8 in.
Over all length	20 ft.
Power plant	85 hp.
Gross weight	1400 lbs.
Empty weight	860 lbs.
Useful load	540 lbs.

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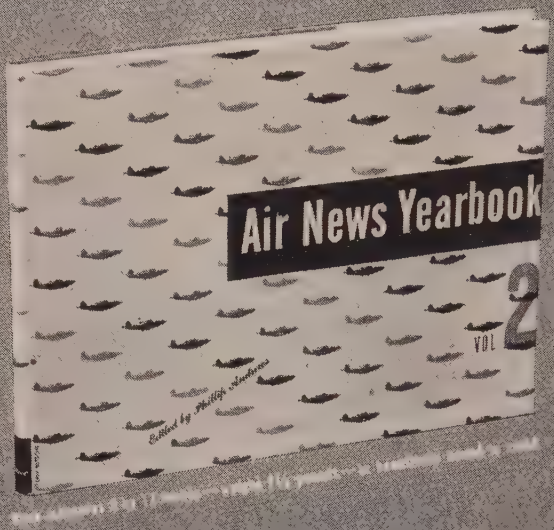

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447

Pay As You Fly

(*Continued from page 80*)

Switlik and Bogardus, among other companies, can supply suitable airplane covers made of 12-ounce OD duck for about $45. The stall warning device is made by Air Safety Corporation and is $35 installed.

Although it is entirely possible to add floats to your present plane and turn it into a seaplane, and also to finance this substantial outlay for added utility by paying one-third down, balance over 12 months, it is preferable to make your choice as to land- or seaplane *before* you buy it. If a seaplane, buy it as such on a factory-guaranteed basis.

The formula for figuring Universal C.I.T. financing for seaplane conversion or other extras is as follows (with similar figures in many other methods): Add to the list price of the airplane the cost of seaplane conversion, or other high utility extras, to get the *total cost*. Divide this by three to get the *down payment*, and subtract this to get the *unpaid cash balance*. On a 24-month plan, hull *insurance* is 20 per cent (twice 10) of the total cost, to which should be added $52 (twice $26) for public liability and property damage. (18-month plan would be 15 percent, plus $39, for a year and a half). Unpaid cash balance plus insurance is *total to be financed*. Add 10 per cent *finance charge* (if 24 months, 7½ per cent if 18 months) for *total time balance*, and divide by 24 or 18 for the *monthly instalments*.

The golden rule for satisfied plane ownership is to buy built-in utility, and then utilize it!

Buy a Useful Plane

(*Continued from page 60*)

is the fact that the two front seats of the *Seabee* can be dropped back to make a comfortable bed for two. Therefore, while the *Seabee* might cost more to buy and fly, it does have certain features that probably would, in the long run, completely offset the extra money involved. It has a baggage capacity of 75 pounds. If the pilot-owner of a *Seabee* took along only two others on a hunting or fishing trip, and carried 71 gallons of fuel (5.3 hours at cruising), this baggage capacity would be increased to 94 pounds.

$7,000 and up:

Of the airplanes in this group, the Beech *Bonanza* ($7,975 at writing) and the North American *Navion* ($7,750) are the only ones in production. The other, Waco *Aristocraft* ($9,980), is at the present only in a prototype stage. Production of the Waco is not expected until late 1947, possibly early 1948.

The Beech *Bonanza* and North American *Navion* are considered by many to be *the* ships for 1947 from the standpoint of both performance and construction. One prime feature of these two new four-place airplanes is that when the purchaser turns over his check for the airplane, he gets one that is thoroughly complete and will not require heavy expenditures for extra equipment. As delivered to you, the *Bonanza* and *Navion* are equipped with flight instruments for both day and night operations.

Powered by 185-hp Continental engine, the *Bonanza* cruises at 175 mph, has a range of 750 miles and carries 100 pounds of baggage (with full load). As to operating costs, an analysis shows that the *Bonanza*, on a basis of 200 hours operation per year, will cost its owner $3.55 per passenger hour on a four-passenger basis, or a total cost per airplane mile of only $0.095.

Salesmen with vast territories to cover and who earn fairly substantial commissions will find it profitable to use such a plane as the *Bonanza* in their normal business. And the sportsman who wants a "luxury" airplane with the ruggedness required to get into and out of remote landing fields will find the *Bonanza* a good airplane to count on.

The North American *Navion* is powered by 185-hp Continental, cruises along at a speed of 150 mph, has a range of over 500 miles and has a baggage allowance of 180 pounds. The roominess of the cabin, the baggage allotment and the complete instrumentation of the ship tag it as a good cross-country ship for either the sportsman pilot or the businessman air traveler. As a further aid to utility, the back seat of the *Navion* can be removed to accommodate 435 pounds of cargo in 46 cubic feet of space. This feature has made the *Navion* an attractive airplane to West Coast farmers who want the capacity as well as the cruising range.

These, then, are the airplanes on the market for you today. Study their performance, go on out to an airport and look them over. Take a ride in the ones that interest you the most. And after you've done all that, pick out the airplane that best fits your needs as well as your pocketbook. Just be certain that you get as much utility out of your choice as it has to offer you. Don't *under-use* your airplane.

From the Front Pit

(Continued from page 66)

the day. Mr. Early Bird is usually a little uncertain of himself and really needs a mother more than an instructor. He considers a day well spent when he gets in 30 minutes of flying after reading old aviation magazines for three straight hours.

The flying bug seems to bite the more technical minds, the kind who know the practical things like the number of degrees in a circle. But I've found that instructors can't depend on that. On ordering a student to make a 180-degree turn, I found him making almost two complete revolutions.

"You said 180 degrees," explained the student when I pointed out his error. "Certainly 100 is perfect, even in a circle!"

Similar to the exploits recounted of one-man dogs are the stories of one-airplane students. If their favorite *Cub* or *Champion* is not available, they wait. Put them in another aircraft just for one hour, and they complain.

Most provocative, however, is the Johnnie who is allowed to make his first cross-country solo and then returns four hours after his gas tank should be empty. At the end of four hours the instructor calls the airports on his student's planned route. Yes, he's been there and gone, continuing north. Johnnie comes back sometime later with a sunburn. He dropped in at the resort where his girl was staying and had a swim. Picked up some gas, too, and he turns in a chit for payment!

Occasionally, an instructor mistakenly blames the examining physician for allowing a particularly slow fledgeling to take out a student's certificate. It seems that either the student is color blind or there is a faulty response between eye and mind.

In fields using a flight control tower, the student often gets the red light when he is trying to land. At first the operator gives him just a blink of the red, but after the student continues to glide in, the light is held steadily in his eye. Along with other instructors, I've often wondered what goes on in the mind of the student as the red light seems to fill the cabin. Maybe this—

"Say," mutters the student, "isn't that a red light? Can it be for me? I don't see anyone behind me. Maybe they do mean me. Red . . . hm—red means stop . . . how can you stop in the air? Could they mean don't come in? Maybe I should go around again. Well—guess I'd better."

Then Mister Student moves the throttle forward and pulls up. The light goes out. Now he's almost sure they meant him. Curiously, he watches the tower. Then he notices the way the airplanes on the ground are preparing to take off—as if the wind direction had changed 180 degrees. He looks for the wind-tee. By gosh, the wind *has* changed. Well, he concludes, that light must have been for me. I must have been coming in the wrong way!

With all the problems faced by the instructor, he still finds his profession rewarding, if somewhat short-lived. Looking back, he can say, "Yes, I see that Joe Dodo made a new world's altitude record the other day. I remember when he was a student of mine. I've been grey-headed ever since the first day I flew him."

"Check her over . . . we're due in Chicago tonight"

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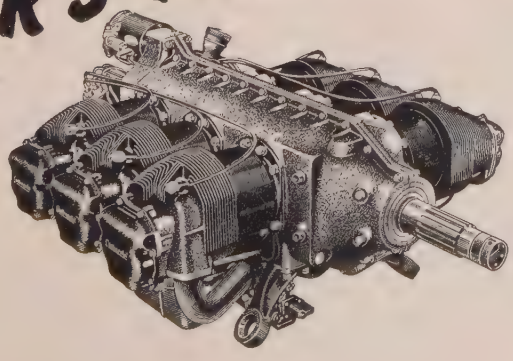

E165. ***This 165 h.p. postwar Continental engine is part of the broad Continental line of eight models, ranging from 65 to 185 horsepower. The E165 is exceptionally light, and develops its rated power at low rpm. Continental also produces radial engines of 220 and 525 horsepower for executive and feeder line planes.***

Crosswind

(Continued from page 25)

good one, recommended for light craft by at least one of the standard instructor manuals. However, it requires quick reactions and perfect judgment that comes only from experience. Here's the way we like to do it—from scratch.

Let's assume a wind of 15 mph from 340° with the only landing strip on a north south line. (See drawing, page 25.) The pilot sizes up the situation and enters the left-hand traffic pattern. This wind is light enough to permit him to cut his power and enter a normal glide. On the downwind leg he observes wind direction (from right or left) and velocity (amount of drift) and corrects his heading to maintain a flight path parallel to the runway. In this particular situation he must crab—head into the wind—to the *right* on the downwind leg, and to the *left* on the final approach. The angle of crab is always somewhat greater on the approach than on the downwind leg since the full action of the wind opposes one's headway on the approach (the airspeed is less, for one thing). With experience, of course, this mental process become almost automatic.

The turn into the final approach is planned as usual, to be completed at a point directly in line with the landing runway. With the wind shown in the diagram it will be necessary to begin the turn sooner or to make a steeper turn—in order to line up with the runway. The pilot rolls out of his left turn in a crab to the left—*i.e.* on a heading calculated to compensate for the drift to the right he will encounter on the approach. He corrects as necessary in order to maintain a straight flight path to the point of landing. This crabbed attitude is maintained until the aircraft is within a hundred yards or so, horizontally, from the intended contact point. Here the pilot swings the nose straight into the line of flight with right rudder. At the same time he uses his aileron to dip the upwind wing into the wind; in this example, he dips left wing, using right rudder at the same time. This is a coordinated cross-control maneuver; the lowered wing compensates for drift (the stronger the wind, the greater the degree of bank) while the right rudder serves to keep the nose pointed down the runway. Actual movement of controls from neutral position is very little in slight or moderate crosswinds. The technique is similar to that used in a forward slip, but the objective is entirely different—the object is to compensate for drift rather than to lose altitude.

The pilot maintains this attitude through the flare-out and into the stalled, three-point position. As the plane approaches a stall, aileron becomes less effective, and the pilot eases off on the right rudder to maintain control balance. The effect will be a landing in which contact is made by the tail-wheel and the windward main wheel slightly before the other wheel. Upon touching ground the pilot may need to continue to hold aileron into the wind if the wind is strong—in light cross winds he returns the stick to neutral, to level the wings. (It should be emphasized here that in any but a stiff cross-wind the amount of bank is too slight to constitute a mental obstacle.) Once he is rolling the pilot maintains directional control with rudder and may use aileron into the wind just as in taxiing.

When the wind is strong or gusty the pilot makes a power landing since he has better control over his plane. Correction for drift is maintained just as explained above . . . the plane is flown onto the runway in the wing-low position, the windward wheel making first contact. With power, aileron control is still effective and the pilot uses it to level the wings, bringing down the leeward wheel, so that the maneuver becomes a normal wheel landing. The landing roll is controlled by using stick into the wind and opposite (downwind) rudder to maintain directional control as necessary.

Pilots some times shy away from wing-low landings because of the illusion from the cockpit that the wing might hit before the wheel. That is only an illusion . . . it isn't possible to touch the ground with the wing since the nose is up in a landing attitude.

The crab and slip method has several advantages over Mr. Jordan's (the crab, solely), to wit: (1) The lowered wing precludes the possibility of a last-minute gust picking up the wing or even overturning the plane near the ground.

(2) Since the plane is at all times headed straight along the runway it's less likely the plane will land in crab which imposes the dangerous sideloads on the gear and may cause a groundloop.

(3) There are no last-minute maneuvers, as in the crab approach, wherein pilot has to kick rudder immediately before plane's contact with ground, requiring perfect timing and delicate judgment.

The airline pilot will argue that with the crab method the plane's wings are always level; for passenger comfort there's much to be said in favor of this.

There seems to be little difference of opinion on the proper method of taking off crosswind. It is an easier maneuver than the landing just discussed, for airspeed (and therefore control) is increasing rather than decreasing. It is merely necessary to know which controls to use in the various stages of becoming airborne.

As the pilot opens his throttle he uses a little stick pressure into the wind and maintains a straight run with his rudder. The usual rudder correction for torque is, in effect, modified according to whether the wind is from right or left. Instead of allowing the tail to come up of itself, the pilot raises it as soon as possible by definite forward pressure on the stick. Stalling off is especially to be avoided in a crosswind as bouncing while drifting causes exceptionally severe sideloads on the wheels. For this reason the stick is held forward to gain excess speed before leaving the ground. Increased airspeed now permits the windward wing to be dipped sufficiently to counteract drift, while a straight roll is maintained by use of the rudder. In extreme crosswinds the leeward wheel will be off the ground before the plane is airborne. As soon as the pilot finds himself off the ground he makes a shallow turn into the wind sufficient to prevent drifting off the runway—this is crabbing—and thence climbs with wings level but in a crabbed position.

So there it is, pilots; this is our formula for safer, smoother landings.

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(*Continued on page 94*)

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(*Continued from page 93*)

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Week-End Wing-Ding

(*Continued from page 72*)

ware Water Gap where the bright green of now-forsaken golf courses greeted us.

Turning west again, we dropped in on several lakes which nestled on the mountain tops, getting, each time, a wild thrill as we streaked across the quiet water at 60 mph. These were barren lakes, without floats or docks or sandy shores—affording us no opportunity to deplane. In warmer weather, we might have swum ashore, but our main hope, now, was to catch fish.

Four pickerel later, we took to the air again to find a camp site for the night. Sweeping over the mountains in a wide circle, we soon found a promising clearing, devoid of stumps and rocks and holes.

Closer examination revealed the almost-obscured tracks of an old wagon road which ran the length of the clearing. That was good enough for us and we sat down as comfortably as you can on some of the alleged grass runways encountered 'round the country.

Lady Fortune cracked us a smile and we found a little brook gurgling less than 100 yards from the clearing. It was nearly dark by the time we had built a fire at a safe distance from the plane and had rigged up a wire grill upon which to broil the pickerel. We washed up and, stimulated by the cold water from the brook, sat down to devour our catch with the consummate satisfaction known only to the select band of fishermen who know the magic of an open fire.

Further fortified by some tasty items from the picnic basket and a gallon jug of steaming coffee, we soon were suffused with that well-fed glow which is the just reward of every hungry sportsman. Later, when we had the strength, we tossed our paper plates and cups and scraps into the embers. Adding some kindling and, eventually, a dry log, we gave it new life.

Later, yawns in volume indicated it was bedtime. Eunie and I won the *Seabee* which contained two comfortable beds, formed by fully reclining the front seats. Sleeping bags arranged near the dying embers provided a warm retreat for Roy and Bill.

The next morning, after a meager breakfast and two hours of fruitless hunting, the flying urge swept us again. So we returned to the clearing, preflighted the *Seabee*, and took off in search of some other spot.

Noon-time found us near Mount Pocono and we sat down on the little airfield and took a cab into town for Sunday dinner. The afternoon was warm and summery and we spent it in picture-taking and fishing at a little lake nearby.

Our week-end proved to us that vacation spot operators and clothing designers have an important task before them. To attract the flying sportsman, clubs, hotels and summercamps will have to build adequate landing strips and provide some services.

Most important of all, information must be made available to the flying sportsman, telling him where to go to hunt, fish, camp and have fun . . . what facilities are available and what precautions must be taken.

With amphibians costing their owners as little as three cents per passenger mile to operate, resort owners had better face the facts. The flying sportsman is on the wing. He needs a place to roost!

Fly to Fish

(*Continued from page 38*)

That gear by the way, consisted of a couple of tip-ups, pickled minnows, a hatchet, a folding aluminum camp stool, a G.I. pocket gas stove, a small coffee pot and a can of powdered coffee. All of this weighed only 11 pounds, so we were well within our load limit as far as the plane was concerned.

At the airport, we gave the ship a thorough but quick check, loaded the gear in, then rolled down the runway into the north wind. A few minutes later we were winging our way over the Detroit River.

Anchor Bay, our destination, was soon below us and Fran began a wide easy circle of the inlet. Locating a spot suitable for fishing and at the same time clear of shanties, we came down to make our customary "double drag" of the area for an ice landing. An old Canadian bush pilot we'd known several years ago was the one who'd tipped us off to this "double-drag" business. He'd told us that on clear ice a low drag of the proposed landing site would expose dangerous cracks and checks. A plane on wheels could easily nose over if it hit a crack or check of some proportions. Air holes, too, have to be avoided. A "double-drag" of an area will show up these spots-to-be-avoided in making a landing on ice.

About two inches of soft snow covered the ice, but this didn't hinder our landing. In fact it helped to bring the plane to a smooth halt. Our landing accomplished, Fran brought the plane into the wind and set the brakes. In spite of the sun it was very cold and I welcomed the invigorating task of chopping holes for the tip-ups.

As Fran went about setting our lines, I finished chopping the last hole and then started a pot of water to boil for coffee. An excited cry of "Buck" rang through the frozen air and spun me around to watch my buddy haul out a lively pickerel.

Fran had not yet rebaited the hook when I saw another line dance into action. It yielded a pickerel weighing a pound and a half.

It wasn't long before the icy blasts of the north wind drove us back to a hedonistic worship of the coffee urn and long draughts of the black brew. De-iced and defrosted, I jigged a "Russian-hook" while Fran took some pictures.

The next hour, however, produced nary a nibble. That's one thing about this lake fishing—one minute you're pulling in fish as fast as you can take them off the hook, rebait and drop the line back in the water, and then after perhaps 5 minutes, or maybe 35 minutes, of this, nothing.

Because a good hour of this had passed, Fran and I decided we had had it for the day and so broke camp. We loaded our gear back in the plane, wrapped the pickerel we'd caught in newspaper with a few chunks of ice for company and put them aboard, then climbed in ourselves. We taxied down the ice, jockeyed into take-off position, using the same wheel tracks we'd made coming in, and took off. As the Aeronca slowly lifted away from the ice, I caught a grin of real satisfaction on Fran's face. It was repeated on my own. We were at last back at the old routine; we were home again and this would be just the beginning of a new winter session of ice-fishing trips via plane.

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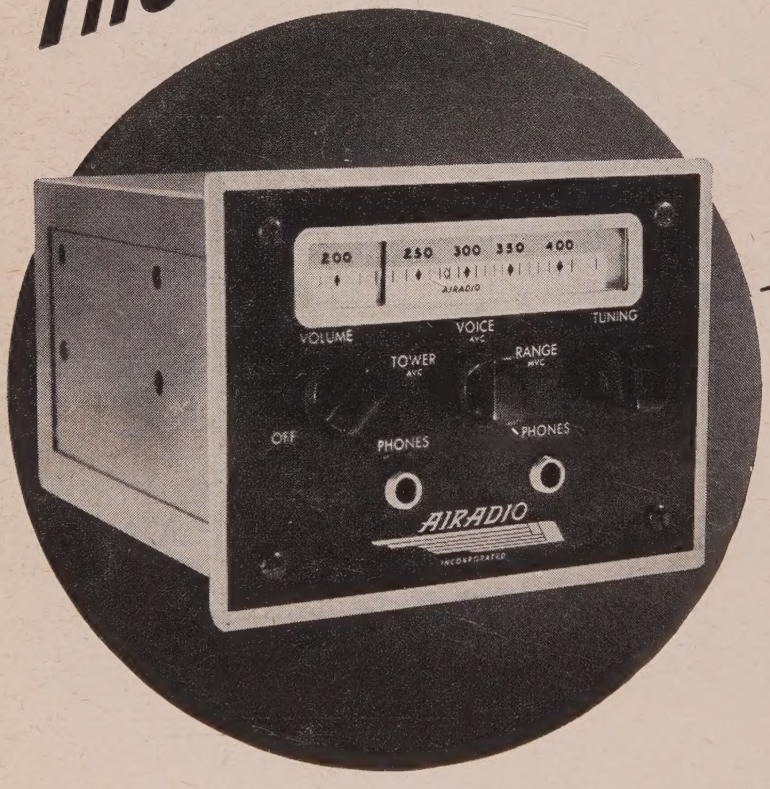

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